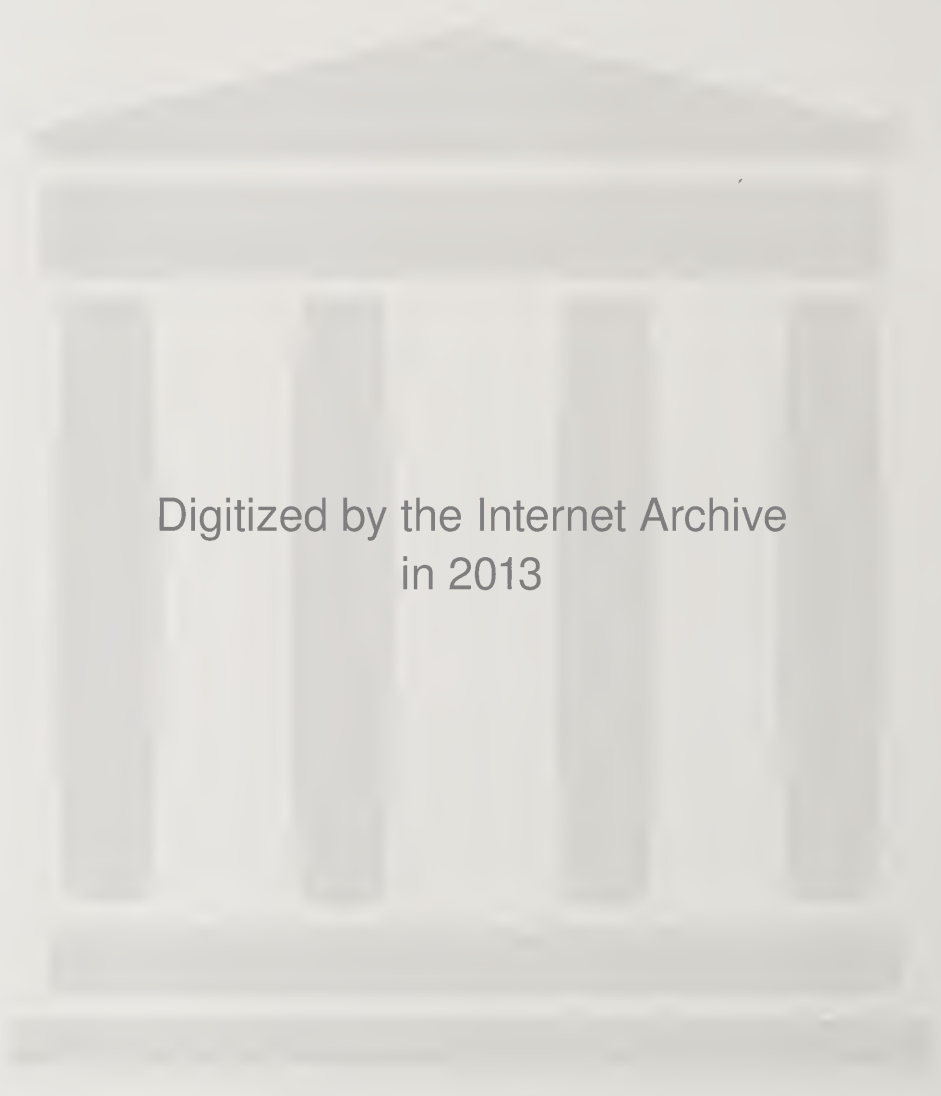




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THE
NEW
HAMPSHIRE
COLLEGE
MONTHLY.

JUNE

1894

VOL. 2

NO. 1

THE NEW HAMPSHIRE COLLEGE MONTHLY.

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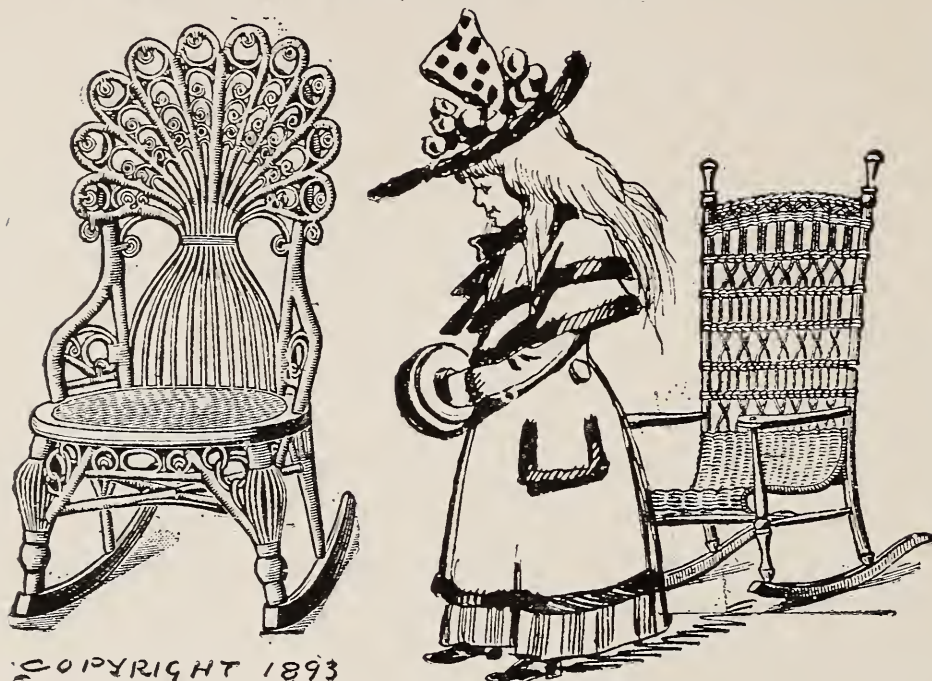
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THE
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THE COLLEGE OUTLOOK

MODERN education stands for the complete development of the individual man and woman. No institution which does not recognize this as its chief ideal is worthy of public support and patronage. The function of the college has ceased to be merely the cramming of knowledge into the craniums of youth, for knowledge is no longer power unless it is linked with the ability to think, and backed by the nobility which enables one to be. The new conditions in the world of life require new methods of training and development. It is becoming every day more necessary that the college graduate should go into the struggle of life with the complete control of all resources, not handicapped by lack of training in any direction. In the educational era upon which we are now entering the battle is not to be between the trained and the untrained: it is to be between the trained and the trained, and the

degree of training will often decide the contest.

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In view of these facts we are glad to chronicle the recent advent of the so called tutor-system into our college life. The essential idea of this system is to give every student a "guide, philosopher, and friend" upon the instructing force. Each member of the faculty assumes the special work of helping, in all ways possible, a certain number of students, with the idea of establishing such cordial relations that the student shall feel free to consult him in all perplexities, and to consider carefully any suggestions he may choose to make.

There are great possibilities for good in the working out of this plan, in the adoption of which President Murkland has been especially interested. In the social development of the student body it will undoubtedly

prove an important factor; and we bespeak for it the cordial sympathy and coöperation of all concerned.

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The time is at hand for the long summer vacation, when we will each go our several ways in search of work and pleasure. College duties will be forgotten and only recalled when we relate some of the interesting stories, social events, or are asked some question in regard to our college. Yet, it is well for us to glance back over the past year and see where we stand. Next to the removal of the college to its present home, where we are better situated in almost every respect, has been the advent of a resident college president. Very few of the students, a year ago, knew of the Rev. Charles S. Murkland, but his past year's administration as president of the college has abundantly shown the wisdom of the unanimous choice of the trustees. Students, in particular, have felt that they have a man at the head who is fully competent to fill this position.

Perhaps the only drawback has been that others, finding out his lecturing ability, have more and more demanded him in the various educational meetings all over the state. Hardly a week has passed when he has not delivered at least one and sometimes five or six lectures.

Some new plans have been brought forward, and the results appear to be coming as soon as could be expected; among these are the "tutor plan," "rhetorical talks by professors,"

"non-resident course," "institute course," and "summer school." All students feel that the president and faculty have done their best to see that perfect justice has been done to all. We can assure the public at large, and the men and women who will come to the college for the first time next September, that they will find here conditions favorable to their best development.

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A few words may be said in the present issue in regard to the election of a member of the next year's class to class editorship. The same rule as was adopted last year, with good results, will determine who will represent the class. All who wish to compete will send in an original manuscript, and with the same a name enclosed in a sealed envelope marked with some *nom de plume*. These several contributions will be carefully looked over, and the choice made before opening the envelopes, so that all will stand an equal chance.

Students entering the freshman class next fall will do well to bear this in mind, and a lively and determined interest in the class to fill this position will show of what material it is made, and give its share to the literary work of the coming year.

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Throughout the present month the sound of busy hammers, shovels, and other implements for the beautifying of the college and town has given Durham an air of liveliness and such

a feeling of improvement that it has been hard to keep the mind on study. Both the grounds around the College and Experiment Station have been graded, roads and paths made; and an Arbor Day spirit has prevailed, such that we doubt if it has been excelled anywhere in the state. The work on the athletic field and tennis courts has progressed beyond expectations. Surely during this month we have made up for all lost time. Social events have also claimed their share of time, and the interest shown by members of the Culver Literary Society in recent meetings is very encouraging to those who are interested in literary and debating work in college. The desire of students to become members of this society is one of the most promising features for the future, and as the NEW HAMPSHIRE COLLEGE MONTHLY owes its existence to the society it is with pleasure that the fact is chronicled.

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It has been suggested by some of the students, and with a great deal of propriety, that a nicely constructed sign be placed near the depot telling the passengers on the numerous trains what the buildings on either side stand for. In a few years the college will need little advertising to have the general public know where it is and what it is doing; but a new situation on a prominent division of the Boston & Maine railroad must excite the interest and admiration of the many men and women who are constantly passing. This summer will see large

numbers of our people and people of other states going to the well known beaches on the coast of Maine, who, having sons and daughters to educate, will sooner or later send them to schools. Such a situation as this would be well thought over in deciding, when the time came, to send their children off.

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We wish to call particular attention to an article found on another page on "Durham—An Historical Sketch." Only a few persons have recognized the important place the town has held in American history, and all will be proud of the patriotic spirit shown by its settlers so many years ago.

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At a recent meeting of the Culver Literary Society the last year's editorial board were reelected.

DURHAM—AN HISTORICAL SKETCH

NOT quite four years ago, the writer, in common with others, was asking these questions: "Where is Durham?" "What has the town ever done?" And there was a feeling that Durham should be blamed for being unknown to the inquirer, though all the while he was showing his ignorance of the history of his state and of his nation, in the making of which the citizens of the old town had borne a most honorable part. Having learned something of Durham's history, the writer will try to give some of the important events, in a brief way.

As early as 1640, settlers had located themselves along the stream known as Oyster river, and though a part of Dover, the settlement had a distinct history from the first, being called after the name of the water beside whose banks it was formed.

The French and Indian Wars of the reigns of King William and Queen Anne, from 1689 to 1712, brought repeatedly upon the settlement the horrors of Indian attack and slaughter. The old Woodman garrison still standing was built during this period and withstood several assaults. Not so fortunate, however, were some of the others. In August, 1689, the Huckins garrison, located about a mile north-east of the college buildings, was burned, and in a field near by, which may be seen from the tower, nearly a score of persons were massacred.

Almost exactly two centuries ago, in July, 1694, the Oyster River settlement was almost completely destroyed. While fire was consuming the dwellings, the tomahawk and knife were despatching the people, and the fact that near what is now called Durham Point, fourteen bodies were buried in one grave, shows us the fearfully thorough way in which the savage work was done.

The settlement was rebuilt, and prospered. It continued to belong to Dover's jurisdiction until May 15, 1732, when it was incorporated as a separate township under the name of Durham.

About 1760, the first lawyer set-

tled in the town. This lawyer was John Sullivan, afterward major-general of the Continental army and governor of the state. He took an active part in the discussions about the rights of the colonies, and in the spring of 1774 he was sent by New Hampshire as a delegate to the Colonial congress. The next winter he led his fellow-townsmen on an expedition of great moment in our country's history, but which has received scanty mention by our historians, probably because of its bloodless result.

On the afternoon of December 13, 1774, Paul Revere rode up to Sullivan's gate with a message from the Massachusetts Committee of Safety, to the effect that King George had forbidden the importation of arms and ammunition into the colonies, and further, that troops had been ordered from Boston to Portsmouth to occupy the city and reinforce the small garrison of Fort William and Mary, in its harbor. Sullivan at once planned to gain possession of the arms and ammunition of the fort before the troops arrived, and on the night of the 13th or 14th, accompanied by a small body of men from Durham and its vicinity, he sailed down the river in a gondola, to the fort. They landed at a little distance from it, and though it was freezing weather the men removed their boots, that they might make no noise in climbing the walls. The surprise was so complete that the garrison had time to fire but once before they were overpowered and

the colors hauled down. One hundred kegs of powder and as many muskets were secured and borne to the gondola. The party returned to Durham, and the powder was hidden under the pulpit of the church; which then stood on the common near Sullivan's house. The church has long since passed away, but before this summer wanes, a monument in memory of General Sullivan will stand on its site.

The attack on Fort William and Mary was the first open act of war on the part of the colonists and shows the stuff of which Durham men were made. It was treason of the rankest sort (for they had attacked their king's fort and hauled down their king's flag) should the colonies be overpowered by England. But they did not hesitate to act, and a little later, when the royal governor issued a proclamation declaring them guilty of treason toward His Majesty, they made a bonfire of all commissions, uniforms, and insignia, which pertained to the home government. The news of the capture of the fort caused great excitement in Parliament, which made haste to issue what was virtually a declaration of war, that was soon followed by Pitcairn's expedition to Lexington and Concord.

A portion of the gunpowder was later taken to Charlestown in an ox-cart, where it arrived just in season to replenish the powder-horns of Stark's men, behind the rail-fence at Bunker Hill, and thus prevented that glorious day from having been one

of disaster and gloom, if not of permanent defeat for the colonies.

One of the men who accompanied the expedition to Fort William and Mary, was Alexander Scammell, a law student in Sullivan's office. Beginning his service to his country in this first act, he later became Washington's adjutant-general and intimate friend, and ended his career with his life, in the assault on the fortifications at Yorktown, only a few hours before Cornwallis's surrender had assured American independence.

During the early years of our nation's life, Durham was a thriving town, engaged in ship-building, and an important stage centre. Within its limits was started what must have been one of the earliest "land-booms" in the history of our country's development. In 1796, a company was incorporated, which laid out the site of Franklin city at the end of the Piscataqua bridge. Streets were surveyed, maps made, and corner-lots bought and sold. But the decline of ship-building, owing to the causes leading to the War of 1812, brought its prosperity to an end.

Then came the displacement of stage-coaches by railroads, and Durham was a way-station. And one writer even went so far as to say, "The village fell into a sleep, from which it will probably never awaken."

But owing to the persistency of purpose of one of its citizens, Benjamin Thompson, the village has awakened, and, though it may never again

become a business centre, we trust that the young men and young women going forth from the college each year, will make it the centre of an ever enlarging circle of educated influence.

F. W. MORSE.

MAY BLOSSOM RECEPTION

Friday evening, May 25, a May Blossom reception was given in the biological rooms of Thompson Hall by Professor and Mrs. Weed and the class in botany. The first part of the evening was devoted to a social reception, the examination of students, note books, and to looking at flowers through the microscopes, and the latter part to a literary programme in which the following topics were discussed :

The Essential Organs of Flowers,	Miss Chamberlin
The Development of the Non-Essential Organs,	Miss Mary Bartlett
Some Floral Mechanisms:	
The Gold-Thread,	Mr. Forristall
The Lady's Slipper,	Miss Bunker
The Bluets,	Mr. Shattuck
The Columbine,	Mr. Chase
The Evening Primrose,	Miss Mary Comings
Some Insect Adaptations:	
Bees and Flies,	Mr. Vickery
Butterflies and Moths,	Mr. J. L. T. Shaw
Two Floral Oddities,	Mr. Whittemore
Sleeping Blossoms,	Miss Hayes
The Old Botany and the New,	Mr. Weed

The laboratories and class rooms were handsomely decorated with flowers and ferns, and the programmes were quite unique.

He that hath light within his own clear breast
May sit in the centre, and enjoy bright day;
But he that hides a dark soul and foul
thoughts,
Benighted walks under the noon-day sun,—
Himself is his own dungeon.—*Scott.*

CLASS HISTORY OF '94

AMONG the many who wended their way to the little town of Hanover at the beginning of the college year of '90 and '91 were twelve ambitious young men who were desirous of having their growing ideas rightly directed, and had picked out the New Hampshire college for this purpose. Our little party consisted of W. L. Berry, B. S. Brown, J. R. Clark, E. S. Davis, A. E. Fuller, F. W. Gunn, F. W. Haskill, H. E. Hill, W. F. Russell, F. H. Swallow, and C. A. Trow. Having passed the entrance examination in a manner satisfactory to the faculty they were brought before the dean, who, fortified behind a large stack of "Freshman Bibles," with his sternest expression gave them much good advice and one of the above mentioned "Bibles" to each man. After which they went to their rooms to lay plans for the foot-ball rush of the evening, little heeding the passage in the "Freshman Bible" which says "Thou shalt not rush."

It soon happened that the sophomores decided that the "freshies" needed training, and decided to give them a surprise party; so one night, after every one was supposed to be asleep, the sophomores, accompanied by most of the upper class men, repaired to Allen Hall where they found about half the '94 men, whom they invited to come out-of-doors, but '94 was too tired, and in the scrimmage which followed the upper class men found they had caught a tartar, several of them in fact. The

rush ended by the injury of one of the freshmen, who was on the sick list for several days. No second attempt was made to rush '94.

At the end of the fall term two men left, and at the commencement of the winter term F. W. Howe and J. B. Lang joined the class. At this time the New Hampshire College was opened to women students, and Miss Lucy Swallow and Miss Delia Brown became the first co-eds., and members of the '94 class.

As time went on only three men remained to graduate, others having left for various reasons, and a number returned to enter other classes, and still others will come back next year.

Q. T. V. RECEPTION

THE reception given by members of the Q. T. V. Fraternity to the faculty, lady students, and other specially invited guests, and particularly in honor of delegates from the Boston and Amherst chapters, was the most interesting event of the season. Grange hall was in a state which surprised all who had ever been there before, and the cheerful reception given by Mrs. Murkland, Mrs. Wood, and Mrs. Parsons (receiving committee) was a good beginning for the pleasant time that followed. At proper intervals there were songs given first by Miss Edna Bartlett, and later by Misses Abby Chamberlain and Mary B. Bartlett. After the refreshments had been served there were speeches made by Professor Parsons, Mr. Morse of Amherst, Mr.

Boynton of Boston; also some very interesting and appropriate words by President Murkland on what he hoped for the society in the future, and a few words in praise of the work as he has known of its being conducted.

CULVER LITERARY MEETING

At the last meeting of the Culver Literary society, on May 11, the most prominent feature was the debate on the question, "*Resolved*, That there are too many political leaders for the good of the nation," which was ably discussed by Messrs. F. W. Gunn and T. S. Wiggin on the affirmative, H. E. Hill and F. B. Clark on the negative. The extemporaneous speech by Mr. Hayes, and the solo by Miss Chamberlin, occupied what time remained after the debate, and were favorably received.

The society is in a more prosperous and flourishing condition than it has been for some time. Several new members from the freshman class, including many of the ladies, have been added, and have aided greatly in making the meetings interesting. Perhaps in some cases there has been a lack of enthusiasm shown by those who have parts on the program, but we hope this will not be so next year.

A project is on foot among the students to hire a small steamboat and on Memorial day to take a trip down the river and out to the Isles of Shoals. Mr. Colburn '97 has the matter in charge, and has a large number of names.



HARVEY L. BOUTWELL.

HARVEY LINCOLN BOUTWELL

MR. HARVEY L. BOUTWELL was born in Illinois, April 5, 1860. He received his early education in the district schools of Hopkinton, N. H. At the age of twelve he entered Hopkinton academy and later Contoocook academy, he then went to Hanover where he graduated from the New Hampshire College in the class of 1882. He received the degree of LL. B. from Boston university, graduating with honor from the law department. He taught in many of the district schools of New Hampshire and Vermont, and after graduating from the New Hampshire College was elected principal of the grammar school in Claremont, which position he held until 1883, when he entered the law office of the late John Y. Mugridge, Esq., of Concord, as a student at law. For the last ten years he has been interested in the evening schools of Boston, and for nine years has been principal of the Eliot evening school, one of the largest evening schools in that city.

He was admitted to the Suffolk county bar in July, 1886, and has been engaged in active practice of law since that time.

Mr. Boutwell paid little attention to political matters till the fall of 1892, when he was elected a member of the city council of the city of Malden, in which city he has resided since 1886. He at once took a leading position in the city council, and in the fall of 1893 was reelected, receiving the support of both political parties. In December, 1886, he was

married to Miss Nellie C. Booth, of Norwich, Vt., and has two sons. He is a member of several secret societies, in some of them holding high offices.

NEW ENGLAND LEADERSHIP

THE colonists who landed at Plymouth, differed greatly from those who founded the colony of Jamestown. The former were industrious, well-to-do men fleeing from religious persecution; while many of the latter were adventurers or criminals. A band of less determined men than our Pilgrim fathers would have turned from New England's bleak, forbidding coast, to seek a more promising landing-place, if not to return to England disheartened. These men did not expect to found their colony without privation and hardship. On the other hand, the settlers of Virginia lacked the pluck, ability, and enterprise of their northern neighbors; consequently their measure of success was neither great nor so quickly developed.

Why has New England excelled in the production of statesmen? Why have Yankee wit and wisdom become proverbial? Because many of our forefathers were intelligent, thinking men, who carried a goodly amount of common sense into all their affairs. Because they saw that education was necessary to success, Harvard College was founded only sixteen years after the landing of the first colonists, and, in 1647, the general court of New England passed an act which provided for educating the children of every village of fifty households.

On account of her enterprising spirit, as well as her splendid water-power, New England very early became the manufacturing centre, as well as the leader in commerce and ship building. Primarily through this enterprise, and later because of the wealth and influence attained, she became the controlling factor in the political and financial welfare of the country, and held this leadership till toward the latter half of the present century.

After steam came into use as power, and wood, as fuel, had been replaced by coal, the manufacturing industries extended toward the coal fields. Because of this, as well as the great agricultural development of the West, the bulk of international trade, finding shorter channels to the sea, ceased to pass through the ports of New England, thus greatly diminishing her commercial importance.

Since the wonderful resources of the West have been developed and that great tract brought nearer to the Atlantic by the railway and telegraph many of New England's sons have sought homes in the fertile plains of the Mississippi valley, or in the mining districts of the Rockies. Thus has the great West been peopled, not alone by the great body of foreigners who have flocked to our shores, but also by New England's sons who have founded institutions and state governments on the same sound principles as those of their native states. By this, New England's life blood has been sapped, and the vacant places have been filled by foreigners.

New England no longer influences the country to that extent which she once did; yet the influence of her sons, scattered throughout the Union, has greatly increased. Although she has ceased to lead in politics, commerce, and manufacturing, she is still, perhaps, at the head in religion, education, literature, and culture, and has not yet ceased to be the birthplace of the best social and political reforms.

New England's present duty is to naturalize her vast body of foreigners; to educate them and instill into their minds the grand and sacred principles of our government, thus to make of them intelligent, law-abiding, and loyal citizens, that New England may be in the future, as she has been in the past, an important factor in the civilization of the world.

L. H. KITTREDGE '96.

Y. M. C. A. CONVENTION

FIFTY years ago this month a man named George Williams—then a clerk in the business of which he is now a partner—called together his fellow-clerks in a united effort for the uplifting and evangelization of the young men in their special calling. From that humble beginning in an upper chamber in London, the work of the Y. M. C. A. has spread over the whole world, and now has 5,158 associations, with a membership of 467,515.

Two thousand delegates have wended their way from forty-one different countries to celebrate this year of jubilee by an International Y. M. C. A. convention to begin

Friday, June 1, in Westminster abbey, London.

The convention will be formally opened by the Lord Bishop of London. The address of welcome will be delivered in English, French, German, and Italian, by the venerable arch-deacon of London. On June 5, the lord bishop of Ripon, Rev. Boyd Carpenter, will deliver a sermon at the thanksgiving service to be held in St. Paul's cathedral.

June 6 will be London's day. The programme will consist of addresses, athletic exhibition, music by a chorus of one thousand voices, and the unveiling of the bust of Mr. George Williams, followed by a magic lantern series giving a picture of the past fifty years of Y. M. C. A. history.

June 7, there will be an excursion to Windsor palace, the royal residence; and, as a special favor, Her Majesty has thrown open her private grounds, and will also permit the conference to inspect the mausoleum erected to the memory of Prince Albert.

A farewell service will be held in a tent decorated by the national flags of the delegates. The service will close with the doxology hymn (written in twenty languages) and the Hallelujah chorus. F. W. G.

President Murkland gave a lecture on "Our Schools and Our Scholars," May 4, at Walpole, in connection with the teachers' institute held in that place. May 9 he repeated the lecture at Hillsborough Bridge.

THE BALMY SPRING

Mephitis Mephitica,
Why is it that a bit of ye,
No bigger than the downiest hair,
Should leave upon the curdling air
A trail as turbid, dense, and wide
As the Mississippi's tide?
Where's the courage but doth quail
At the flourish of thy tail,
When thy scent herculean
Smites the blue cerulean?
Answerest thou with odorous taunt?
Prithee, Mephitis, avaunt!

S. H. L.

NEW DISCOVERIES IN APPLIED CHEMISTRY

THERE is probably no industry that has not been plainly benefited and materially advanced by scientific coöperation. Perhaps no branch of science has been so closely identified with this advancement as chemistry, for it has contributed many valuable discoveries to the arts and manufactures as well as to the sciences. It is the intention in this article to give a few of the more recent applications which seem destined to become of importance.

A new substance, which has been named carborundum, is now creating much interest. For the discovery of this compound we are indebted to the efforts of Mr. E. G. Acheson. For several years prior to 1890 he was engaged in experimenting with carbon in the endeavor to crystallize it. During these experiments he found that by passing an electric current through a mixture of sand, coke, and salt, contained in a specially constructed furnace, until the mass became fused, that one result of the fusion was a quantity of greenish blue

crystals, which proved to be a composition of silicon and carbon, now known as carborundum.

Its chief use, in the industrial arts, will probably be as an abrasive material, for its hardness is very nearly equal to that of the diamond. It has been successfully applied to the cutting and polishing of diamonds, and is now being used as a substitute for emery and corundum.

It seems incredible in these times, when science plays so important a part in our industrial trades, that it should be said by one of authority, that the chemical nature of India rubber is little better known than sixty years ago. Some explanation for this may be found in the fact that India rubber belongs to a class of compounds whose investigation is a difficult matter. Lately, however, attention has been turned in this direction, and through the investigations of Dr. C. O. Weber and other noted chemists, the processes of vulcanizing India rubber have been very much improved. It is hoped that, in the near future, we may be able to manufacture India rubber artificially. Isoprene, a substance somewhat allied to turpentine, is convertible into true India rubber; its manufacture, however, is as yet too expensive for commercial purposes, but, this once accomplished, a long stride towards the manufacture of artificial rubber will have been made.

Electro-chemical applications are daily increasing. The most important of these, as yet, is in the electrolysis of salt solutions. Two prod-

ucts may be formed by such decomposition. First, by passing the current through a solution which circulates about both electrodes disinfecting solutions are found; second, by interposing a diaphragm between the electrodes NaOH, or caustic soda, and hydrogen is obtained on one side, and chlorin on the other. If the hydrogen which is given off is burned in an atmosphere of the chlorin, hydrochloric acid is the result; or by passing the chlorin into the caustic soda solution, or over lime, the hypo-chlorites are obtained. If potassium chlorid be used instead of sodium chlorid, analogous results follow; potassium chlorate, one of the possible products, being much used in the arts and manufactures.

The most important application of the disinfecting solution has been in sewage purification. The result of the experiment in Havre and Loirent, France, has been very satisfactory, not only purifying the sewage but killing the bacteria germs as well.

It would seem, at the present day, when petroleum can be obtained so easily and cheaply, that to agitate the feasibility of making artificial petroleum would be out of place, but it is quite probable that, with the present enormous consumption of petroleum and the constantly increasing demand for it, the supply must eventually grow less. There are three theories which account for the formation of petroleum: First, water as it came in contact with hot iron carbid in the interior of the earth caused a reaction resulting in the formation of the

hydro-carbons of petroleum and iron oxid—the common iron ore. Second, petroleum was formed by the decomposition of vegetable matter, accompanying the formation of coal. Third, that it was formed by the distillation of animal fats under pressure.

Each one of these theories has its eminent representatives, but the recent manufacture of artificial petroleum in accordance with the belief of the representatives of the third theory, would seem to settle the question in their favor, and for a practical demonstration of a theory, we can find no prettier illustration than this. The process is very simple, being the distillation, in a strong iron vessel, under a pressure of twenty-five atmospheres, of the animal fats and oils at a temperature of 300° to 400°C. Under favorable conditions 70 per cent. of the fatty oils is transformed into petroleum, perfectly analogous to the natural article, which is 90 per cent. of the theoretical yield. For the present the discovery is only of scientific interest, but at some future date it may possibly have important commercial bearings.

One of the latest discoveries, that is destined to become of immense commercial importance, is a new form of dissolved cellulose. This new compound is made by treating cellulose—cotton and similar substances—with a 15 per cent. solution of caustic soda. This alkaline cellulose, thus formed, is then exposed to the vapors of carbon bisulfid in a closed vessel. A reaction ensues, and in the course of two or three hours a

yellowish mass is obtained which is soluble in water. On heating this solution the cellulose is re-precipitated forming a mass of enormous viscosity, which, in a solution containing more than 10 per cent., changes to a solid. Already this new compound has been put to a variety of uses, some of the most important of which are as follows: (a) As an adhesive substance substituting glue, flour paste, gums, India rubber solutions, etc. (b) For sizing and filling textiles; in this capacity it possesses an advantage over ordinary sizing in that it is of the same material as the fabric itself, and does not, therefore, injure the cloth. (c) For purposes of producing casts and molds. By filling hollow vessels or coating the surfaces with the solution, perfect reproduction of form and structural details can be obtained. (d) When fully dried it forms a transparent mass resembling horn which can be worked in a lathe, taking a brilliant surface under cutting and polishing tools. (e) For making asbestos masses compact. (f) For artificial leather, belting, inner shoe soles, etc., and (g) for artificial rattan, buttons, whalebone, and as an electric insulator.

At this early date to enumerate all the uses to which it may be put would be a difficult matter; suffice to say, it will more or less completely substitute celluloid, for while it possesses most of the good qualities of celluloid it is entirely devoid of its objectionable features, and can be manufactured at a much less cost.

F. W. HOWE '94.

COMMENCEMENT PROGRAM

FRIDAY, JUNE 1.

Senior Reception by President and Mrs. Murkland.

SUNDAY, JUNE 3.

Baccalaureate sermon in Congregational church, by President Murkland.

SUNDAY EVENING.

Address given to Y. M. C. A., in Congregational church.

TUESDAY, JUNE 5.

10:00 a. m. Trustees' Meeting.

3:30 p. m. Alumni Meeting.

3:00 to 5.00 p. m. Reception to Trustees and Alumni, by Mrs. Murkland, assisted by Mrs. John B. Smith.

8:00 p. m. Prize Speaking and Reading.

SPEAKERS:

F. C. Britton,

"Battle of Waterloo,"

Victor Hugo.

L. H. Kittredge,

"What 'Americanism' Means,"

Theodore Roosevelt.

C. A. Trow,

"The Trial of Warren Hastings,"

Macaulay.

F. S. Adams,

"How He Saved St. Michael's,"

Mrs. Stansbury.

F. W. Gunn,

"Vindication of Ireland,"

Sheil.

READERS:

Miss Mary B. Bartlett,

"Spinning,"

Helen Hunt.

Miss Abby Chamberlin,

"Hervé Riel,"

Robert Browning.

Miss M. E. Bunker,

"The Angels of Buena Vista,"

Whittier.

J. L. T. Shaw,

"America in the Front Rank of Nations."

Daniel Webster.

D. B. Bartlett,

"The Vision of Sir Launfal,"

James Russell Lowell.

J. W. Coe,

"Wolsey's Speech to Cromwell,"

Shakespeare.

WEDNESDAY, JUNE 6.

COMMENCEMENT EXERCISES.

10:30 a. m. Address by the Hon. Edwin Willits, of Washington, D. C., recently assistant

secretary of agriculture, and formerly president of Michigan Agricultural College.

8:00 p. m. Concert by Blaisdell's orchestra, of Concord, H. G. Blaisdell, leader, assisted by Miss Emma M. Becker, of Boston, soloist, Miss Mary Spofford, of Manchester, pianist.

PROGRAMME.

1. Overture, "Semiramide," Rossini
Orchestra.
2. Intermezzo, Flirtations, Steck
Orchestra.
3. The Raft, Pinsuti
Miss Becker.
4. Cornet Solo, Il Canto, Rossari
Mr. Nevers.
5. Cuban Dance, Manzanello Alvars
Orchestra.
6. { a Ritournelle, Chaminade
b Where Blooms the Rose, Clayton Johns
Miss Becker.
7. Intermezzo from Cavalleria Rusticana Mascagni
Orchestra.
8. Piccolo Solo, Through the Air, Damm
Mr. Wheaton.
9. The Lost Chord, Sullivan
Miss Becker.
10. Selection from "Tabasco," Seabrooke-Beyer
Orchestra.

THE FIRE DEPARTMENT

THE college buildings are now believed to be well supplied with hose and all necessary apparatus for extinguishing fire. In order to give the students some knowledge of the system, and the best methods to adopt should a fire be discovered, Professor Kingsbury asked them to meet to listen to a short lecture, in which the entire water system, pertaining to the fire department, was explained. Then going out upon the grounds he gave them a little practical work in order that they might understand the action of a hose through which a stream of water under high pressure was passing without any one to direct its course. This was soon thoroughly under-

stood, one student being badly wet. After following the water-mains for a short distance all stopped at the Experiment Station, where at present is housed the hose carriage, which contains some 500 feet of hose; this was inspected and finally under the direction of Professor Kingsbury they proceeded with the supposition that there was a fire in one of the rooms of the main building, and that it was their object to make the distance as soon as possible and connect with the nearest hydrant. The signal was given and the company started. The fellows did admirably, but as the reality of fire was out of account, they presented no other than a comical picture to those who caught a vision of heads and heels intermingled with dust as they sped down the street in a state of agitated animation.

COLLEGE NEWS

JANORIN '97 recently spent Sunday at his home in Hampton Falls.

Bartlett '97 has purchased a new bicycle.

The Durham band and dramatic club spent the evening of May 3 in Lee, and they all report a very enjoyable ride.

Professor Harris, W. W. Fay '94, and C. H. Chesley '93, of Coe's Northwood Academy, visited Coe '97. Professor Harris is thinking of attending the summer school.

Colburn '97 took a short trip home on May 23 to attend the marriage of his cousin.

A change in the walks to Thompson Hall has been made so that the weary student does not have to walk so far as formerly.

Dennett, Bartlett, and McKenna '97 spent May 20 and 21 in Lee.

An afternoon tea was given by Professor and Mrs. Kingsbury to the faculty and some of the students in honor of the visitors that are stopping with them, Miss Ambler, Miss Bessie Child, Miss Catharine Child, and the sister of Mrs. Masen, Miss Mary Knox.

The Orange Judd Co., of New York, have just published a new book, by Professor Weed. It is entitled "Fungi and Fungicides," a practical manual concerning the fungous diseases of cultivated plants and the means of preventing their ravages. It covers nearly 250 pages, with nearly a hundred illustrations.

Bartlett '97 received a visit from his father and two sisters.

The class in botany will not be required to collect a herbarium this year. A certain amount of field work is required instead.

Several of the freshmen have been taking Practical Agriculture in the form of plowing on the stony field back of the railroad station: it brings good exercise as well as twelve and a half cents per hour.

Professor Whitcher gave a lecture at Ossipee April 27, at Candia May 2, and at Newington May 11. The subject in each place was "Plant Food, Where Obtained, and How Used."

The Experiment Station will have about fifty acres of the farm planted to crops this year, at this rate it will take only about three years to go over the entire farm.

Work on the house to be occupied by Professor Pettee on College street is being rushed along, and it will be ready for occupancy by the middle of July.

Captain E. M. Shaw of Nashua has sent to the Experiment Station a variety of seeds which he collected at the World's fair. Among them are wheat, barley, and oats from Russia, corn from Australia and New Mexico, and other equally rare seeds which will be tested to see if any are adapted to our climate and soil.

Hancock '96 has been absent several days visiting at Orono, Me. He was formerly a student at that college.

Chase '97 received a visit from his mother the first of May.

Coe '97 has had trouble with his eyes.

President Murkland attended the teachers' institute at Kingston May 11.

There is no doubt but that the athletic grounds will be in good condition for use in September.

Mrs. Murkland gave a reception to the upper-class men and the young ladies of the college in honor of Miss Robertson of Ithaca, N. Y., who has been in town stopping with her sister, Mrs. C. L. Parsons.

Professor Pettee recently spent a few days with his family at Hanover.

The botany class went out on their first botanizing trip the last week in April.

A. O. Brown '97 has left college to accept a position with the American Express Co. at Pittsfield.

Mr. Edwin B. Davis has suffered somewhat from rheumatism for several days, but is much better now.

Mr. Frank Swallow ex-'94 spent several days in town; he expects to enter the class of '97 next September.

Professor Scott gave a reception to the senior class May 5.

Durham has not been without her share of fires this spring. Monday, April 30, the woods on Broth hill caught fire, and burned a day and a night, doing much damage. On Tuesday, May 8, the locomotives set fire to some brush on the Packer's Falls road, which spread rapidly and burned over a large number of acres; at one time the buildings of George Caverno were in danger, but, owing to the aid of some of the college fire department, they were saved. The college boys did excellent work for the time they have been in practice.

A decided improvement has been made in the tearing down of the old house near the Congregational church, and much more could be done in the same line.

Rev. Mr. Chapin of the Congregational church lost his two-year-old daughter the first of last month. He and his wife have the sympathy of all. President Murkland gave the funeral address.

Shrubbery has been set out in front of Nesmith Hall, and the lawn has been graded.

The band will go to Northwood Narrows on Decoration Day.

Four of the boys spent a very pleasant Saturday down the bay the 5th of May, having good success in fishing and enjoying a clam bake.

Professor Weed and family have moved into town.

April 26, Mr. Woods of the Andover House, Boston, lectured on "Neighborhood Guilds in Country Places."

Dennett '97 spent a Sunday in Manchester last month.

The old buildings opposite Thompson Hall are being torn to pieces, much to the improvement of the view from the college grounds.

Davis '97 has two row boats on the river, and they are much used.

John W. Coe '97 has been elected president of the Y. M. C. A. for the next college year.

The governor and council have let the contract for the General Sullivan monument. It will be delivered here by the first of July, and it is expected the dedication will take place a little later. Work has begun on the foundation and grading, from plans furnished by Professor Pettee.

Wheeler '96 is at work for the college collecting a flora of Durham and the surrounding towns, as well as furnishing the botany class with fine specimens for class work.

Professor Parsons has been to Boston a number of times of late, and is quite interested in a lately patented method which consists of a chemical compound to which the name of bis-cose has been given.

Miss Mary B. Bartlett received a short visit from her sister, Mrs. F. E. Sanborn.

Dr. Lamson has been at work spraying the fruit trees on the station farm.

The faculty have had a very good tennis court made across the street from Professor Wood's house. Numerous other courts have been finished, and the tennis association have two in process of construction.

Professor Weed had an interesting article in the April number of *The Popular Science Monthly* on "The Guests of the Mayflower."

Our language instructor, Mr. E. B. Davis, is expecting to spend next year studying languages in Europe.

A strawberry festival and open meeting of the grange was held May 1, the exercises being conducted by the students and faculty.

Caverno and Howe went to Orono, Me., to attend the grand lodge meeting of the Q. T. V.

E. R. Shaw has been working for the Experiment Station, driving the plowing team.

Miss Mathes of Abbott academy, Andover, Mass., spent May 9 with her mother, who invited a number of her friends and a few students, to give her a welcome home.

From various reports we judge that the freshmen did not catch many fish on their trip down river Arbor day.

Janvrin's father talks of erecting a dormitory on the lot next to Mr. Lowell's house.

Sunday, May 13, Rev. Mr. Lord gave the chapel address, which was very interesting and instructive.

Eastman received a visit May 13 from his father, mother, and a number of friends who drove up from Portsmouth.

J. L. T. Shaw received a visit from his uncle, aunt, and cousin, one Sunday last month.

J. L. T. Shaw went home to spend Sunday; he was accompanied by Dennett.

Some members of the faculty have formed themselves into a tennis association with Professor Kingsbury president, F. D. Fuller secretary-treasurer.

Mr. W. S. Martin, Jr., was in town the first of May representing the Massachusetts Mutual Life Insurance company.

A number of the students, with ladies, attended the drama "Boston Dip" at Lee, May 3; all report a good time and a pleasant ride.

Chamberlin and Bartlett '97 enjoyed a twenty-five mile ride on their bicycles.

Quite a number of students have earned pocket-money by working around the college grounds as well as improving the appearance of things.

Mr. Russell, the curator, was placed in a queer predicament. He went into the tower the other day and the trap-door dropped back on him. He was obliged to send a message to ground by means of his keys before relieved.

DeMerritte '97 and his mother visited friends at Durham point May 13.

Professor Morse went to Worcester, Mass., where he visited Worcester Polytechnic Institute, of which he is an alumnus.

Bulletins 20, on "Effect of Food as Milk," by Professor Wood, and 21, on "Fertilizers," by Director Whitcher, are being mailed from the Experiment Station. The following is clipped from the *Massachusetts Ploughman* of May 12:

We commend the article by Professor Whitcher of the New Hampshire Experiment Station, on the use of chemical fertilizers, printed on this page, to the careful attention of our readers. The manufacturers of fertilizers are giving us honest goods, which often yield a handsome profit in improved crops; but the intelligent farmer who knows his farm and his crops can do far better than to buy the ready-made mixtures, which are only an attempt to average the wants of various soils and various crops.

A TRIP TO ORONO

THE Granite Lodge of the Q. T. V. Fraternity held its annual meeting May 9 and 10 with the Orono chapter, at Orono, Me. Delegates from Amherst and Boston Alumni chapter arrived at Durham May 7, where they were joined by the delegates from the Granite chapter. On our trip the only thing worth mentioning happened at Portland: this

was our failure to find a hotel before it was time to leave. However, we saw the monument erected to the poet Longfellow. We next stopped at Bangor, having seen little of interest between these two stations, with the exception of very fine scenery, and at Waterville the location of Colby university, as well as the home of the great race-horse, Nelson. At Bangor there was little to attract attention.

We arrived at Orono about dark, and decided not to look around that evening, but on Thursday morning we were shown over the college buildings. They have a nice location about eight miles from Bangor and a quarter of a mile from Still-water river. We noted particularly the falls and log sluices in the Still-water river. We were very kindly received by the students, and highly entertained during our stay in Orono. We arrived home May 9, very much pleased with our trip.

J. L. CAVERNO '95.

ALUMNI NOTES

'81—H. L. Barnard is engaged in mercantile business at Troy, N. H.

'81—F. D. Ely is still an official in the Vermont state prison, at Windsor.

'82—L. F. J. Carpenter is a professional nurse in Malden, Mass.

'85—R. S. Alden is making a very successful manager of the asylum farm at Concord, N. H.

Professor B. T. Blanpied, formerly professor of chemistry in the

New Hampshire College of Agriculture and the Mechanic Arts, is at Bethany college, Bethany, West Virginia.

'81—Fred P. Stanton is doing a rushing business in dairy farming at Strafford Corner; he is building a new barn this year.

'81—William P. Ballard is secretary of New Hampshire Relief association. Address, Concord, N. H.

'92—Percy L. Barker of Milford has just graduated from the Thayer School of Civil Engineering, at Hanover. He has accepted a position on the water-works, Waterbury, Connecticut.

'92—Edward M. Stone of Marlborough has just graduated from the Thayer School of Civil Engineering.

'93—Wilton E. Britton is at present in charge of the Horticultural Department of the Connecticut Experiment Station, at New Haven, Connecticut.

We notice, among other exchanges, a decided improvement in the different publications. The *Cadet*, published by the students of the Maine state college, has recently reached us in a new cover and of a size much more commendable than that of previous publications.

Judge Edward Coke Billings has bequeathed \$70,000 for the purpose of establishing a chair of English Literature at Yale, to be known as the Emily Stanford Professorship of English Literature.

NOTES FROM OTHER COLLEGES

Five hundred thousand dollars is to be expended by Cornelius Vanderbilt in erecting a dormitory at Yale.

The faculty of the Michigan university comprises over fifty of its own graduates.

The statue of Benjamin Franklin, which stood in front of the electric building at the World's Fair, has been presented to the University of Pennsylvania.

The University of Paris is supposed to have been the first to confer the degree of law, which took place in the year 1149.

Prof. Henry Drummond has been called to the presidency of McGill university, Montreal, Canada.

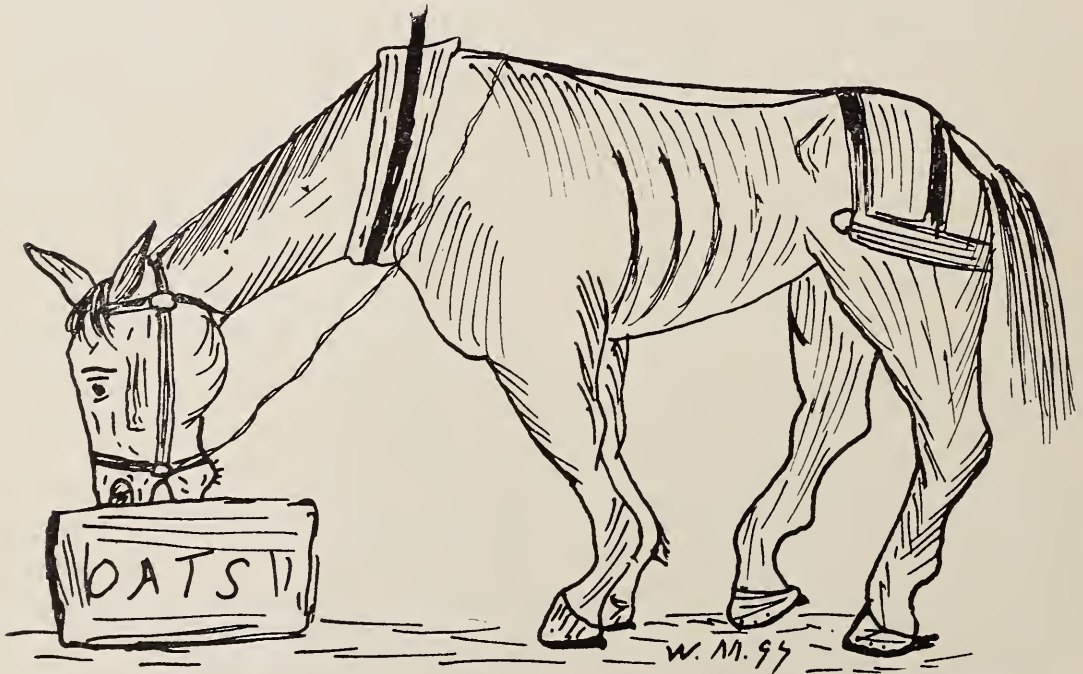
The University of Chicago has a glee club composed of sixteen women.

Among other exchanges, we notice an interesting statement in regard to the University of Paris, which, at present, has over 7,000 students: there are no classes, no athletics, no commencement day, no glee club, no societies, and no publication of any kind.

The African Prince Besolow, who is a member of the class of '97 of Williams college, has received a call from his native land to return and take possession of his kingdom.—*Ex.*

Cornell has three freshmen and two Varsity boat crews this year.

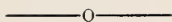
The Chicago university has one instructor for every six students.



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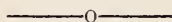
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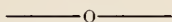
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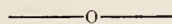
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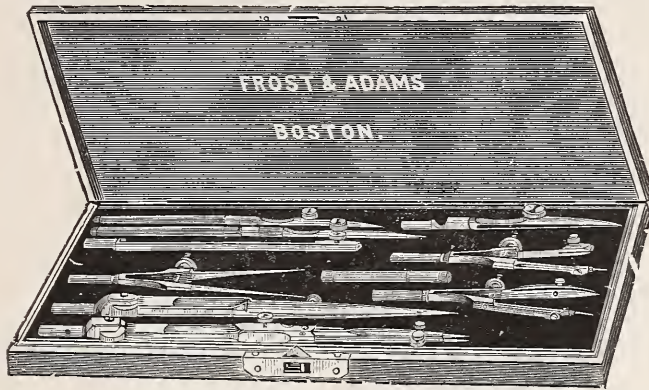
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COLLEGE BULLETIN

Q. T. V.

FRATERNITY MEETINGS, THURSDAY EVENINGS.

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Trains leave Durham for

South and West.

5:57 A. M.

8:52

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5:26 P. M.

SUNDAYS.

6:44 A. M.

2:56 P. M.

6:13

East and North.

9:59 A. M.

2:55 P. M.

6:02

7:23

8:25 P. M.

CULVER LITERARY SOCIETY.

7:30 p. m.

Friday, September 14; Friday, September 28; Friday, October 12.

Chas. A. Trow, *Pres.*

Mabel E. Bunker, *Sec'y.*

CHAPEL EXERCISES.

Week-days at 12:07 p. m.

Sundays at 5:07 p. m.

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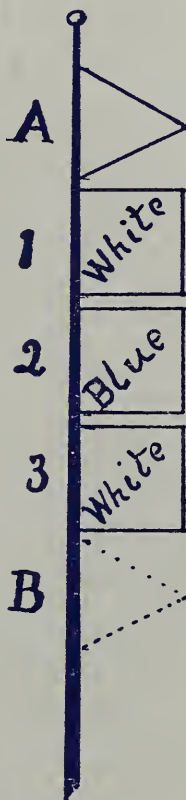
Saturday, 1:30 to 5:00 p. m.; other days, 4:00 to 5:00 p. m. Reference room, 9:00 to 12:00 a. m.; 1:30 to 5:00 p. m. Reading room, 9:00 a. m. to 6:00 p. m.

Y. M. C. A.

MEETINGS TUESDAY EVENINGS,

7:15 P. M.

LOCAL WEATHER SIGNALS.



Read downwards.

No. 1 is the weather indication for to-day. If blue, stormy; white, fair; half white and half blue, showers.

No. 2 is weather prediction for to-morrow.

No. 3 is weather prediction for the third day.

A and B are the temperature flags. When seen at the top it means warmer, when at the bottom, colder.

THE
NEW
HAMPSHIRE
COLLEGE
MONTHLY.

OCTOBER

1894

VOL. 2

NO. 2

THE NEW HAMPSHIRE COLLEGE MONTHLY.

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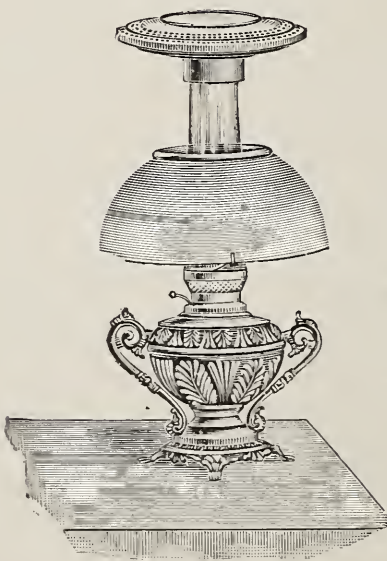
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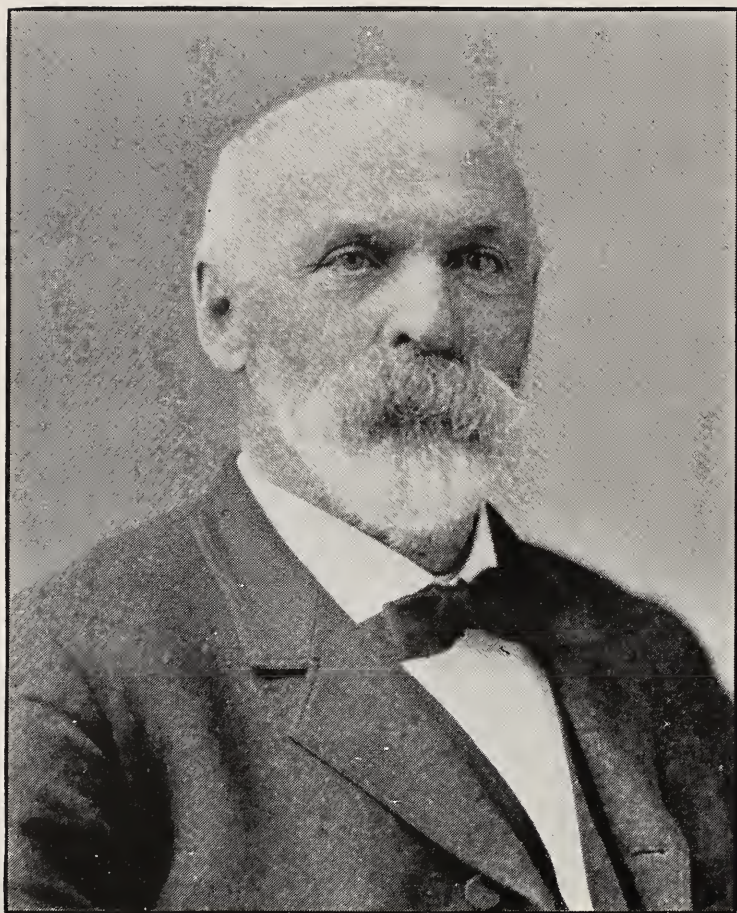
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Very Truly,
W. F. Purcell,

THE
NEW HAMPSHIRE COLLEGE
MONTHLY

VOL. 2

OCTOBER, 1894

NO. 2

THE COLLEGE OUTLOOK

AT the commencement of the college year the MONTHLY expects the support of the students. This means not only the financial part, in the way of subscriptions and in giving their trade to our advertisers, but in endeavoring to advance the literary standing of the paper. Every person connected with the college in any way, should feel it their privilege and duty to contribute to its welfare.

*
* *

The most important new department in the present college year is the introduction of the system of military drill. The secretary of war recently detailed Lieut. H. C. Hodges of the 22d Infantry for duty as Professor of Military Science and Tactics in the New Hampshire college. We are glad to welcome this addition to our curriculum, for it is a very evident truth that the discipline derived from military drill is acquired quicker and with more

lasting benefit than from any other source. Recognizing all this, and seeing the interest shown by the students, we can readily prophesy a year of thorough, profitable, and pleasurable work.

*
* *

The establishment of drill will necessitate the construction of a good drill hall, and it would be a good thing to make a thorough business of it and at the same time provide a gymnasium with the necessary apparatus for gymnastic practice and athletic sports.

*
* *

Another question we hope to have answered soon, and that is, Will not the young women have gymnastics as well? And that soon?

*
* *

We are glad to welcome the members of the freshman class to all

the privileges of the college. From present appearance it may be inferred that they will be a credit to all the departments and strengthen many weak points in the athletic and literary ranks. The class is as large as could be expected, and with the present equipments as large as can be managed with justice to instructors and students. There are good accommodations for those who have come to us this year, and the success of the year will depend largely on whether we follow the advice Longfellow has given in "*Hiawatha*:"

"All your strength is in your union,
All your danger is in discord."

*

* *

What students go to college for is to study,—at least it has been supposed so—and the amount of substantial learning that the student gets has always been thought the principal thing. There are other things connected with college life that it is necessary should be carried on, but good substantial "plugging" is the thing expected of us all. Many students think that a look into a book before recitation hour is sufficient; and instructors, knowing this, have been obliged to crowd into the course of study so many recitations a week that it is difficult, many times, to keep up and do justice to each study. There is no other remedy for the failure to keep up, than hard work. When a person's health is such that he cannot, or when, for lack of means, he has work to do, he is excusable; otherwise we see no reason

why he should not make it his object and duty to be well prepared for all recitations, and thus make a grand whole of his work.

*

* *

Vacation canvassing is a custom that has grown up among college students and is sanctioned by a great many popular and well-known men. Some of our most successful business men have undertaken it and have done very well. But whether or not it ought to be encouraged, is quite another thing. According to this custom, students spend their vacations in the employment of some firm, which, through its agents, offers very alluring inducements. There are different ways of looking at the subject, and if one sees that he is doing good to the people by presenting an article which will be of lasting benefit, and is only introducing it here and there, that people may see for themselves he is carrying out what we see at all our county, state, and national fairs, when this is done the article stands on its own merits, and can readily be procured at a reasonable cost by the consumer. However, that is not the basis on which the canvassing business is usually conducted. Some large firm procures a copyright or patent, and securing the college student, proceeds to cram into him all the tricks of the trade. As an inducement, he is told the experience is worth more than anything he can get in his college course. But is it his experience? He is merely carrying out his instructions,

and learns nothing but the animosity of the people to this method of operations. If there is any production in the market that is worth anything, people will find it out and purchase it. Anything that is so good that it has to be placed in the hands of a select few, to receive enormous profits, is unworthy of encouragement by a college man. As for the amount of good received from the work, we can only say that it is hard mental torture, and not suited to recuperate a person who is in college life.

*
* *

A suggestion will be of small weight to so large a corporation as the Boston & Maine R. R., but we are often discommoded, and kept from patronizing the railroad, by the lack of proper trains. We have no eastward train until 10:00 a. m., but a train is made up in Dover which could perhaps be made up in Exeter, thus giving us a forenoon in Dover. In coming from Concord and making connection with the Claremont and White River division, there is a loss at New Market Junction from noon until 2:00 p. m., which could be saved by putting a passenger car on the noon freight and having it leave a few minutes later than at present.

*
* *

It is well to note the organization of a Village Improvement society. Much has been done individually, and now the organization will only

continue the good work, though in a more able and uniform manner. Durham has naturally a good location, and it only needs "touching up" to make the beauties of the place appear. When the public lands are neatly arranged and bordered, telephone poles painted, advertising reduced to its proper sphere, sidewalks and street-lamps in their proper places, then will Durham command the respect of all her citizens and her many visitors.

*
* *

The second institute course in agriculture is to be held next winter, and there will be combined with it a practical dairy school, in which laboratory instruction in dairy methods will be given in the creamery.

*
* *

The non-resident course in agriculture started last spring has met with unexpected approbation and success. More than fifty students are now enrolled upon it, and are doing excellent work in the study of technical agriculture. Many of them are residents of New Hampshire, but nearly a dozen other states, from Florida to California, are represented. The course has received words of approval from a large proportion of the agricultural papers of America.

*
* *

If it is the purpose of the Culver Literary society to further the interest, and to increase the facility, in literary debate of its members, it

certainly failed to manifest that concern and enthusiasm in the consideration of the topics brought up at its opening meeting last week which is likely to accomplish such a purpose.

The thing most to be regretted is, that apparently this lack of interest was not at all occasioned by inability on the part of the participants to interestingly and creditably treat the topics assigned them, but rather proceeded from indifference and a want of preparation.

It is doubtful if a topic allowing of more prolific treatment, or presenting a more favorable opportunity for bringing out telling and convincing points, could have been selected than "Is the Military Drill a Benefit to the College," yet it was so lightly passed over that there was nothing said to leave a commendable impression on the minds of the auditors as to the real merits accruing from military drill.

Only a few months ago the city of Boston sought in vain for a man with a military training properly qualified to fill a most responsible departmental position in its service, and this is only one of many instances that occur. Aside from the detail of every-day drill, should be considered the discipline involved and its results; the training of the mind and body to act in concert with a vigorous, energetic activity; to be alive to duty in every situation, and to have an understanding of men in places of command or insubordination; regular and healthful habits, and a constant watchfulness over

physical fitness until acquired excellence makes thought of bearing and deportment seemingly unnecessary.

Not less important is the keen interest it awakens in the mind and heart of every youth in his country's military and naval affairs, and how they compare with other armed powers; the improvements in armament, equipment, and the changing methods of procedure in these lines of action. These, and many more, are trite and important particulars that should have been carefully and fully brought out in debate.

This lack of interest must have been apparent to all. But why any lack of interest? Surely there is enough of youthful energy, and a plenty of minds with bright thoughts and good ideas in the society to make its success from all points of view assured. It seemed to the writer that there was not enough individuality in the different members. One depended too much on the other for indicating a line of argument to be pursued, or an answer to be returned. A personal investigation of the question was neglected, and too much dependence placed upon the spur of the moment, but when the moment came there was only "spur" enough to make the effort remarkable for its weakness.

In order to be a success each member must take an active interest in the affairs of the society, and so manifest that interest in attendance, comment, and assistance as to excite and stimulate effort in those participating, such that they will feel

encouraged (even obliged) to present a timely and interesting feature, and will feel well paid, in return for so doing, by the appreciation shown by their hearers. Shirking should find no place, and each should help the rest by contributing a proper share.

Only in this manner will success be complete, and the more complete the success the better qualified will be the members who go forth from the society to take part in the active battles of life, where they will find that just such training and practice has fitted them to meet successfully the competitions of a business life.

These remarks are entirely impersonal, and given with the hope that, as suggestions, they may prompt the members to a more active interest, which shall bring to the society meetings enthusiasm, earnestness, and a livelier zeal in its work.

HON. B. F. PRESCOTT

EX-GOVERNOR BENJAMIN F. PRESCOTT, whose portrait appears in this number, was born in Epping, February 26, 1833. He prepared for college at Phillips (Exeter) academy, and graduated from Dartmouth college in 1856. In our limited space we cannot give a full account of his life and work. The positions held by him have been many and varied, and all have been filled to the satisfaction of the public. He read law with Chief Justice Henry A. Bellows, of Concord; was admitted to the bar, and for a short time practised his profession. He then became associate editor of the

Independent Democrat, in Concord, until 1866. In the mean time he was a special agent of the United States treasury department for three years. He was five times secretary of the New Hampshire electoral college; secretary of state four years, and governor from June 1877-'79. He has been a railroad commissioner for six years. Has presided over a state convention, and was chairman of the New Hampshire delegation in the national Republican convention at Chicago, in 1880. He was appointed a trustee of the New Hampshire College of Agriculture and the Mechanic Arts in 1874, has been a member of the board ever since, and is now its president. He was elected a trustee of Dartmouth college in 1878, and is still in the same position. He has been active as a member of both boards and has served in important positions.

He was for many years president of the Bennington (Vt.) Battle Monument association; was present as governor, and took conspicuous part in the centennial celebration of the battle in 1877; was also president of the day at the laying of the corner stone of the monument in 1887, and took part in its dedication in 1891. He has been vice-president of the New Hampshire Historical society, and a member of the Royal Historical Society of Great Britain. He has always taken a deep interest in his native state and its institutions, and never allows an occasion to pass without saying a good word for them. He has devoted much time in

securing for the state, Dartmouth college, Phillips academy, and other places, portraits of eminent and prominent men, until the number now reaches 260. Much more might be added, but Governor Prescott is well known to our people, and his life work is familiar to many beyond the limits of the state. He is a firm and active friend of this college, and has done much to place it in the prominent position it now occupies.

HARNESSING NIAGARA

MUCH has been said about the powers of Niagara Falls for taking the place of steam in manufacturing, but not until within a few years has much been done in regard to the subject.

In 1725 the power of the falls was made to run a saw-mill, opposite the head of Goat island, for cutting lumber for Fort Niagara.

During the next hundred years, doubtless many men tried to devise some plan by which they could make millions of money by utilizing this great water-power. But no plans took definite shape till 1886, when the Niagara Falls Power Company was organized and a charter granted, by which the right was secured to use the water of the Niagara river for generating two hundred thousand horse-power.

New York capitalists became interested, and by their influence many millions of dollars were raised and the services of the greatest engineers of this country and of Europe were secured. They decided upon the

plan of producing water-power by means of wheel-pits and tunnels sunk into the ground.

Work was begun for the first time in October, 1890. The tunnel was completed last fall, and the main wheel-pit was ready for its machinery by the first of March.

If one could see the plan on a small scale it would be found simple. At a point a mile and a half above American Falls, a broad, deep, inlet begins and leads two thousand feet back in a north-easterly direction. This inlet is lined with heavy masonry, which is pierced at the upper end by a score of gate-ways, through which the water will be admitted, by short canals, to pits that pour down, through huge steel pipes called "penstocks," into wheels at the bottom. Through these wheels the water will go whirling away to the outlet of the tunnel, which is just below the new suspension bridge.

The tunnel for carrying the water away is over a mile and a quarter in length and twenty-one feet high. Its shape is that of a gigantic horse-shoe fourteen feet wide at the bottom and eighteen at the widest part. This tunnel was cut through rock in a straight line for a distance of nearly two hundred feet underneath the city of Niagara Falls, and it emerges at the bottom of the gorge a short distance down the river from the American Falls. This is the largest hydraulic tunnel ever built.

The plant thus far has been used for electricity. The three dynamos lately put in place are the largest

ever made, each being expected to transform the 5,000 horse-power received from its turbine shaft into an equivalent in electricity. As a beginning, a contract has already been made to supply the city of Buffalo with 10,000 horse-power.

It is not an exaggeration to say that the first appearance of the Niagara Falls power in Buffalo will mark an epoch in the history of electricity. The experiment of supplying Buffalo will determine approximately how far the great currents can be carried by the latest methods, without a loss from the wires sufficient to make the cost of the current equal the cost of steam power. Upon this experiment depends largely the question whether Niagara power shall be sent through half a dozen states or confined to western New York.

Other undertakings are in progress to utilize this vast power, and before long not only electricity but all kinds of manufacturing will be carried on by it.

It has been said that the diversion of so much water from the falls might impair their beauty, but the report of an eminent engineer on the subject asserts that the water will be lowered only three quarters of a foot; so, while being made useful, this great waterfall, one of the world's greatest scenic wonders, will continue to be an attraction to people from all parts of the world.

The Athletic association elected L. H. Kittredge as foot-ball manager for the year.

A TEMPEST

THE day had been hot and sultry. It was about the middle of the afternoon that I found myself upon the summit of a high hill overlooking the lake. My long tramp had tired me and I threw myself down beneath the shade of a clump of trees to rest.

Below me lay the lake, like a mirror; the hills and mountains around it were enveloped in a blue haze. Trees, grass, birds, — everything, even nature herself, seemed overcome by the oppressive heat.

No sound broke the stillness, save that of the locusts. I was overcome by the sultry air, and dropped into a doze.

I was awakened by rain-drops; I arose and looked around; what a change! Great masses of black clouds were hanging around the tops of the mountains; they steadily hurried onward. The surface of the lake, so still and smooth but a short time before, was ruffled into white-capped waves by the wind which came rushing down over the mountains. The angry swash of the waves upon the shore came faintly up to me at intervals. As the wind died away for an instant, then a fresh burst, bending the trees and whistling through their branches, would drown all other sounds.

Blinding flashes of lightning followed each other in quick succession. The thunder, which at first had growled faintly, gradually increased its roar as the storm swept nearer and nearer.

Faster and thicker fell the rain,

till it seemed to come in great sheets; the wind also increased in strength; it now tore on with a steady howl, snapping in two large trees here, uprooting others there.

Thunder and wind mingled in an almost indistinguishable roar. The darkened landscape was illuminated by the vivid flashes of the lightning.

The spectacle was grand and impressive. I remained in silent admiration till I could hardly keep my footing against the wind, then made my way down the open hillside as best I could, to seek shelter from the storm. B '97.

PROGRESS OF ART IN OUR COLLEGE

A NEW feature has been introduced into the institution this year, namely, a class in advanced drawing. Last year a class of freehand drawing was in reality first started in the college, with Mr. James Hall, of Boston, as instructor. During the course, and especially in the last term, the students became very enthusiastic, and wished to continue the course. Indeed, so interested were they that at the beginning of this term it was found to still exist, and in some few cases there had been an effort made to carry it on in the shape of sketching.

At the opening of this term it was proposed to form a class in advanced drawing, to be elected in the place of Plant Diseases. The young ladies especially are well pleased with this, and nearly all to whom the course was open have improved the opportunity to take it.

Mr. Hall proposes to instruct the class in the further use of charcoal, taking up casts of parts of the human body, and more difficult groups; also to work at sketching as time and the progress of the class admits. This exercise tends to develop talent among the students which few thought to find there, and also to cultivate our taste for that which is truly artistic.

It is believed that in time this will come to be one of the most attractive features of the college; already some creditable pieces of work have been done. We hope to present some of the work in future numbers of the MONTHLY.

DEMERITT HALL

THE new dormitory, built during the past year by Mr. Albert DeMeritt, and known as "DeMeritt hall," is now completed, and most of the rooms are occupied.

The building is a three-story structure, and will accommodate thirty students, besides a large boarding establishment. Each suite of rooms consists of a study, bedroom, and a large closet, the study and bedroom being lighted by two windows each, and heated by steam.

One of the interesting features is a brass rod two inches in diameter, extending from the top to the bottom floor, and circular holes in the floors for this novel elevator's peculiar operations.

The building is admirably situated, being near the college buildings, and on a street which promises to be one

of the best in town. The growth of the college has made this building a necessity, and with the reasonable charges it will be well filled.

SOPHOMORES v. FRESHMEN

THE annual sophomore-freshman base-ball game was played upon the athletic field Thursday, the 27th. This contest is always of great interest and of much importance to the two lower classes. Each team was impatient for the game to begin, and was on the field fully half an hour before time for the game to be called. This half hour was occupied by the sophomores in practice, while the freshmen sat on the ground and looked.

The game was called at 2:30, the freshmen at the bat. Bartlett pitched for '97, and Dennett covered first. Morgan was the first freshman to step up to the plate. He found the ball and sent it in the direction of third base, but it was thrown to Dennett and Morgan was out. Maloney followed and shared the same fate. Richardson then pounded the ball and reached first, and brought in the first run. One more run came in for '98 before the inning closed. The sophomores then came to the bat and made four runs the first inning. They lost their lead in the second and were behind up to the ninth. In the last half of the ninth inning the game looked rather dubious for '97, but as they had shut out '98 in the seventh and eighth, they had the confidence

born of success, and by hard work at the bat brought in the needed run.

Without stopping to finish the game, they waved the class banner, and with cheers of exultation rushed down the street, while a number of young ladies (who had watched the game) fluttered their handkerchiefs and manifested their joy at the result of the game. The sophomores rode through town in a barge, waving their banner and cheering in a way which one might interpret as a sign of victory. Below is the score,—

SOPHOMORES.

	AB.	R.	1B.	TB.	PO.	A.	E.
Eastman, s. s.....	4	2	1	1	2	3	1
McKenna, c. f.....	5	2	2	2	4	0	2
Coe, r. f.....	4	4	2	3	1	0	1
Smith, 3 b.....	4	5	2	2	3	1	2
Dennett, 1 b.....	4	3	2	2	10	0	0
Young, l. f....	3	1	0	0	2	0	0
Wiggin, 2 b.....	3	1	1	1	3	2	3
Hunt, c.....	5	1	2	2	2	3	1
Bartlett, p.....	4	1	2	2	0	2	1
Total.....	36	20	14	15	27	11	11

FRESHMEN.

	AB.	R.	1B.	TB.	PO.	A.	E.
Morgan, c.....	4	3	2	2	7	2	2
Maloney, p.....	5	2	1	1	1	1	1
Richardson, 1 b.....	5	1	1	1	8	0	1
Smith, 2 b.....	2	3	1	1	3	2	0
Ladd, 3 b.....	4	3	3	3	1	0	1
Moore, l. f.....	2	3	1	1	1	0	0
Straw, c. f.....	4	1	1	2	2	1	1
Howe, r. f.....	6	1	2	3	1	0	1
Watson, s. s.....	4	2	1	2	1	0	2
Total.....	36	19	13	16	25	6	9
Freshmen.....	2	8	0	2	5	0	0—19
Sophomores.....	4	1	3	3	1	3	2—20

Earned runs, Sophomores, 3; Freshmen, 6. Stolen bases, Sophomores, 8; Freshmen, 12. Two-base hits, Coe, Straw, Howe, Watson. First base on balls, off Bartlett, 5; Maloney, 5. First base on errors, Sophomores, 8; Freshmen, 7. Struck out, by Maloney, 8; Bartlett, 1. Double plays, Smith '98 (unassisted), Smith '97 and Wiggin. Passed balls, Morgan, 3; Hunt 2. Time, 2 hours, 15 minutes. Umpire, E. H. Hancock.

A. E. WARNER '98.

THE SUMMER SCHOOL

THE first session of the New Hampshire College Summer School of Biology was a decided success. There were nearly twenty teachers in attendance, and they pursued the course with much enthusiasm. The afternoon sessions were devoted to laboratory studies in plant biology under the direction of Principal Chas. H. Clark of Sanborn seminary, and the morning sessions to work in animal biology under Professor Weed. Field excursions were taken each week, the most interesting one, perhaps, being the trip to Kennebunk beach, where marine forms were studied. It is expected that the school will be continued next year, when probably chemistry and physics will be added to the course of instruction.

N. H. C. v. EXETER SECOND

THE first foot-ball game of the season occurred October 6, with the second eleven of Phillips Exeter academy.

The game was called at 3:30, with Exeter in possession of the ball. Morton kicked the ball to Morse, who made a gain of twenty-five yards. N. H. C. lined up, and steadily pushed the ball to Exeter's 20-yard line, Dudley and Morse making good gains through the centre and around the ends; but losing the ball on a fumble, Exeter carried it fifteen yards toward their goal, where they lost it on four downs. N. H. C. then pushed the ball down the field, and made a

touch-down. McKenna tried for a goal, but missed. Score, 4 to 0. Exeter kicked off the ball, which was taken by Trow, who carried it fifteen yards before he was downed. The ball then passed from side to side until time was called. Score, 4 to 0.

The second half commenced with N. H. C. in possession of the ball. McKenna kicked the ball to O'Brian, who ran twenty yards. Exeter then steadily pushed the ball until it looked as though they would score. But N. H. C. braced up and held them on the 10-yard line, where they got the ball on a fumble. Morse was given the ball for a long run around the left end. N. H. C. made good gains until time was called, which left the ball on Exeter's 5-yard line, leaving the score 4 to 0. Time, 1 hour, 15 minutes.

N. H. COLLEGE.		EXETER SECOND ELEVEN.
Trow	l. e.	McCall
Young	l. t.	S. Shaw
Wiggin	l. g.	Gibbons
Whittemore	c.	Whitney
Rice	r. g.	Berwick
Russell	r. t.	Stack
Forristall	r. e.	McLane
McKenna	q. b.	Morton
Hunt	r. h. b.	O'Brian
Morse	l. h. b.	Hermann, Capt
Dudley, Capt	f. b.	Cameron

COLLEGE NEWS

DURING the summer a telephone line has been put up, with the central office at Caverno's store, making it very convenient to the college.

Mr. John Brown has moved into one of the houses near Hotel Schoonmaker.

The shop has received additions of machinery in the shape of a wood planer made by Wood & Co., of Dover, and a large and powerful iron planer made by Flather & Co., Nashua, N. H.

Frank J. Demeritte received a serious injury to his hand while playing a scrub game of foot-ball; breaking two bones in his right hand.

Given '97 has left college on account of the sickness of his father.

Janvrin '97 will not return to college.

Mr. J. W. Burnham ran a barge each day to the Strafford county fair held in Dover.

Sprague '97 has left college, but is working on the experiment station force.

Professor Pettee and family have moved into their new house opposite DeMeritt hall.

Mr. Bassett is the new instructor in modern languages, taking the place of Mr. Davis, who sailed for Europe in July.

The class in physics numbers forty-six this term.

The floors of the college buildings have been oiled during vacation.

Shattuck '97 has entered Bryant & Stratton's Commercial college in Manchester.

Kittredge '96 spent his vacation at work in a drug store in Portsmouth.

A sidewalk has been built from the dormitory to Main street.

The sidewalk in front of President Murkland's house has been much improved.

F. W. Howe and his brother Howe '98 attended the funeral of their sister, Miss Fannie Howe, at Hollis.

Captain Shaw of Nashua has erected a house on Faculty avenue. It is now occupied by Lieutenant Hodges.

Mr. Buck of the Massachusetts Institute of Technology has entered the '97 class.

The first game of baseball played on the new athletic field was a contest of three innings between the men from Hotel Schoonmaker and DeMeritt hall, resulting in a score of 12 to 5 in favor of the former.

At a meeting of the Culver Literary society held September 7, the resignation of J. L. Caverno as business manager of the MONTHLY was accepted, and F. C. Britton was elected to fill the position thus made vacant.

The Orphanage is now occupied by Kittredge & Barney, who have put in a neat bookstore, with all the college text-books. Stationery can be had at the same place.

Mrs. Fish of Exeter has been visiting Mrs. Murkland.

Several of the '97 class have taken up advanced drawing under Mr. Hall.

Dr. Lamson had an extensive exhibit of spraying, and the results on fruit, at the Tilton State Grange fair.

The need of bodily exercise was well set forth by President Murkland in the chapel at the commencement of the term.

Mr. Richard Fitzgerald has charge of the college account books, and also those of the New Hampshire experiment station.

Dennett and Chamberlin '97 recently drove to Barnstead, where they enjoyed a short visit.

Miss B. E. Lang of Smith college made us a short visit the first of the term.

President Murkland spoke at the Plymouth fair Wednesday, September 19, and at the High School Teachers' institute at Concord, September 22; Professor Weed also addressed the institute.

Chase '97 is assisting Hill '95, as bell boy.

J. L. Caverno has found keeping store more congenial to his welfare than college life.

Kenney '97 has been away taking entrance examinations to Webb academy, New York.

Wiggin '97 returned to college after the term began. Sickness had prevented his completing his work before.

September 14 the Culver Literary society held a meeting, where a short

programme was carried out, and a question in relation to the benefits of military drill to the college was discussed. This meeting brought out several points showing improvement in the society.

Mr. Lucien Thompson has remodelled the old Thompson house, for students, and it presents a new and very attractive appearance.

The freshman class elected their class officers for the term as follows: president, Chamberlin; vice-president, Bernice Caverno; secretary, Moore.

Dr. Lamson had a very pretty and neat exhibit at the Strafford county fair. The butter process was very neatly carried through, and speaks well for this department of the experiment station.

The faculty gave Wednesday, the 19th, to the students, in which to attend the county fair held at Dover. Professor Witcher also secured free passes for students on that day.

There seems to be no good reason why the students of this college cannot have a distinct college pin or badge. Either in connection with the class pins or outside.

A small rush between the two lower classes, on the evening of September 18, resulted in the sophomores winning the remains of a tin horn.

Question. Who can improve on the college yell?

Hill '95 has been farming in Colebrook, N. H.

Professor Kingsbury has been quite unwell for the last two weeks.

Mr. M. M. Smith, of the Dover high school, is devoting Saturdays to special work in the biological laboratory.

The experiment station grounds owe much of their neat appearance to the personal labor of Shaw '97.

Mr. F. A. Gendrop, of Boston, took the place of Mr. James Hall in the drawing class during the last half of September.

New suits have arrived for the foot-ball team.

A game of base-ball between a scrub nine from the college and the Lee team, played on the athletic field, Saturday, September 22, resulted in a victory of 17 to 14, in favor of the college.

Members of the faculty have individually purchased, and keep in good condition, about twenty street lights.

During the summer Lieutenant H. C. Hodges was detailed by the government as military instructor in the New Hampshire college.

Mr. George L. Teeple spent part of the summer in the West. Professor Parsons entertained his father, mother, and brother, during the summer. Professor Scott was occupied in setting his new house in order. Professor Kingsbury has been at work on the plans for the year's work in the shop, in laying out a prescribed course of work. Presi-

dent Murkland has been busy, as his office demanded, and in fact all the members of the faculty have done a good summer's work.

Miss Chamberlin spent her vacation at home, with the exception of a few days spent at the beach.

Misses Mary and Carrie Comings remained at home, performing the necessary work of farmer's daughters.

Miss Hayes also staid at home, enjoying several pleasure trips.

Miss Folsom spent her summer at the Folsom summer residence in New Market.

Miss Chesley has been at home nearly all the time.

Misses Mabel Bunker and Mary Bartlett aspired higher, they having just returned from a six-weeks sojourn at Sunset Pavilion, North Conway, N. H., where it is generally supposed they became proficient in the art of waiting on table.

Miss Carrie Bartlett remained at home, playing the part of nurse a portion of the time.

Hancock entered the salesman department of Bunker's store, and forebore canvassing. The worst thing we understand he did was selling door hooks for hooks and eyes.

ALUMNI NOTES

'91—E. G. Cole made us a pleasant visit last month; he is still in Hampton.

'91—Edward P. Stone returned to Durham from sugar testing in Montpelier, Vermont. on the 1st of July, and started for a sugar plantation in Louisiana on the 15th of September.

'93—Charles L. Hubbard spent the summer in Durham, in the employment of the college. He will be with Brown, Sharp, & Co., of Providence, Rhode Island, after the first of October.

'93—F. J. Bryant is teaching at Union academy, Canaan Street, New Hampshire.

'94—Howe is in the New Hampshire experiment station, working as an assistant chemist.

'94—Fred W. Gunn expects to enter the Y. M. C. A. training school at Springfield, Mass.

'94—Bert S. Brown has been at work in Vermont.

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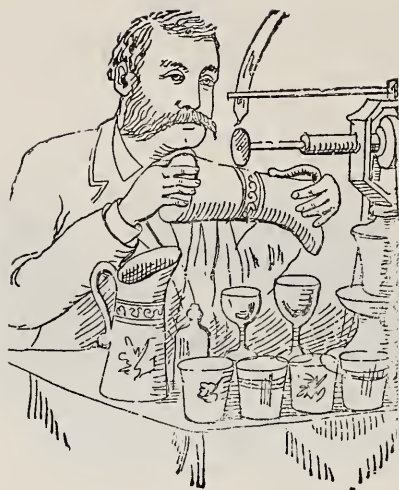
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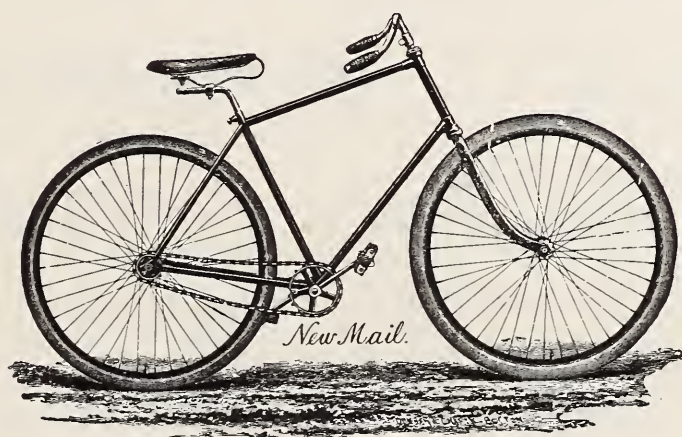
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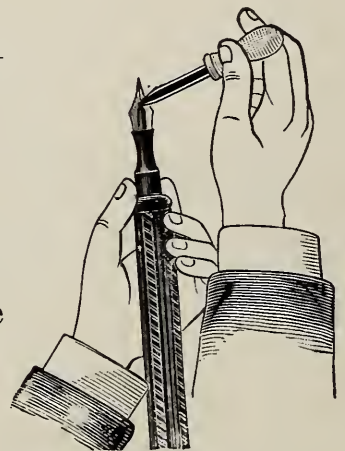
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THE
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HAMPSHIRE
COLLEGE
MONTHLY .

NOVEMBER

1894

VOL. 2

NO. 3

THE NEW HAMPSHIRE COLLEGE MONTHLY.

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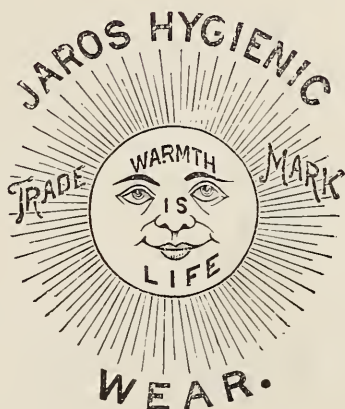
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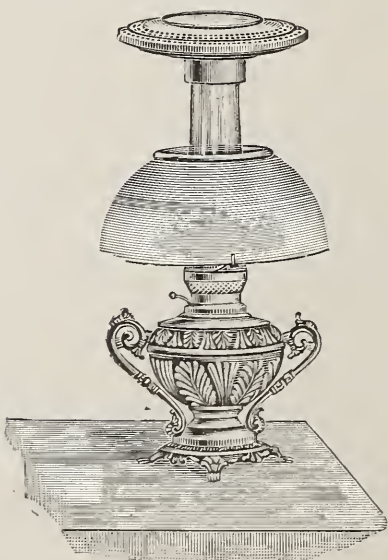
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THE
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MONTHLY

VOL. 2

NOVEMBER, 1894

NO. 3

THE COLLEGE OUTLOOK

OWING to the lack of a gymnasium here, military drill has quite an important place to fill. The so-called "setting up drill," which has lately been much extended, corresponds very closely to a gymnasium "floor drill." This drill is taken for fifteen minutes five days in the week. If everyone took this with "snap" he would soon find that the exercises which at first tired him would have very little effect. Military drill teaches obedience, watchfulness of details, and proper respect to superior officers. From this drill some people learn for the first time how to walk properly. A young man who carries himself well is, to a certain extent, a little above his fellowmen, and is almost sure to make a good impression. A young man can never tell in just what position he may be thrown, but time has proved that he who has had military discipline is better prepared either to follow or to lead.

As we proceed with the drill we shall have guns and small field pieces. Every cadet will have rifle practice, which has a value beyond the mere ability to hit a target. In these few words we think we have pointed out some lasting good, so although the work may seem irksome it may be as helpful as some of the regular studies.

*
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The practical value of an education is well illustrated by the number of students that have entered the different colleges this fall. It was expected by many of the prominent educational workers, that the business depression, through which we have passed, would cut off those students dependent upon their own exertions, and thus leave the colleges in possession of the well-to-do class. The results have been very different; in nearly every college, with one or two easily explained

exceptions, the classes are as large or larger than common. The conclusion that may be drawn from this is that the American youth have come to realize the fact that an education is the fundamental foundation on which success in life must be reared, and that they intend to secure this. Particularly in New England the competition is between the educated, and it is here a necessity rather than a means of distinction. It is sincerely hoped that the young men and women of New Hampshire will see what the signs of the times indicate, and through the means of her educational institutions make the most of their opportunities.

We applaud the action of our forefathers when, suffering religious persecution in the Old World, they founded in the newly discovered hemisphere a colony where religious freedom could be enjoyed, and made this one of the fundamental principles of our nation. Do not all true Americans now believe religious tolerance to be the only just doctrine? Do they not all look with horror at the outrages, caused by religious intolerance, which cover so many pages in European history? If called upon to decide this question by ballot would not every one cast his or her vote for perfect religious tolerance in its broadest sense? Is it not the duty of every American to do this in order to preserve in its greatness this mighty nation which our ancestors have built for us.

Seven years ago there was founded in Clinton, Iowa, an organization known as the American Protective Association or the A. P. A. Since then it has spread through the length and breadth of the country until now it asserts that it controls two million votes. This political body, strictly secret as to membership and largely so as to principles, exacts from its members an oath never to vote for a Catholic or assist in the election of a Catholic to any public office.

We shall all, sooner or later, be called to take our stand either for or against this rapidly growing organization. What shall that stand be? Shall we rush into it heedlessly, as too many have already done, simply from some feeling against the Catholic church, or against Catholics as citizens or individuals; shall we put ourselves in the position of Catholics and try to judge liberally, blaming for the abuses of the church, not the great mass, but the prelates?

With our principles of religious tolerance can we conscientiously support or even sympathize with the American Protective Association, which has for its avowed object the ostracising of several millions of voters on strictly religious principles? If not, then shall we not be obliged to consider every member of it utterly out of harmony with American principles?

*

* *

We are told by scholars that probably the brightest rays of hope for the endurance of our republic are

our perfect religious tolerance and our public school system. We affirm, with good reason, that the Catholic church is striving to break down our schools. We see that the American Protective Association is threatening the religious tolerance. Shall we not throw our influence against things so totally un-American, unjust, and dangerous?

The motto of the American Protective Association is a good one. "America for Americans." But let us not forget that a man's love for America or his loyalty to America cannot be measured in terms of creed; and that every person, Catholic, Protestant, Jew, or Atheist, who is in sympathy with our institution, and who has the good of our nation at heart, is an American in the broadest and truest sense of the word.

L. H. KITTREDGE.

THE EDUCATION OF THE INDIANS

SINCE the beginning of the republic, this subject has been discussed by all classes of society, and I think that in the near future it will be discussed even more than it has in the past. for it is becoming more and more evident as the years go by, that an Indian has a great desire to become civilized if he is only influenced by the right surroundings. In the first place, it has been found that as long as Indians are allowed to hold their tribal relations, they will take no interest in civilization or education; but that, on the other hand, if they are separated and

given allotments of land, they are likely to become good and industrious farmers.

As an illustration of this statement, I may instance a place where during the last year they sold their products and bought new binders and other farm machinery; and in the future it is expected that they will be able to buy all necessary tools. They have built fairly good houses, around which are gathered the comforts of a civilized home. Yet this is only one instance in which they have been brought to partial civilization.

Of course there are drawbacks in this, as well as in all other undertakings. In the past one of the greatest drawbacks has come from the fact that the men who are appointed as agents on the reservations have not been appointed because of any special fitness, but because of some political debt; and that the office has been regarded as a license to rob and cheat the Indians in any way possible. A second drawback has come from the incentive given them to plant crops and earn a living for themselves, and then the discouragement of having to see their crops dry up for want of water.

To educate the Indians, two kinds of schools are in use; those under the care of the government and those under the supervision of missionaries sent from different churches. The schools under charge of these missionaries were formerly helped, to a certain extent, by money from the government, but now they have all

given up this help, except those that are under the Roman Catholics.

The statistics regarding some of these schools are very interesting, and it is found that some Indian children are just as bright as any American children at the same age. At some of the schools there are work-shops where the young men are trained in the use of tools as well as of books, and through these schools they learn a trade. But what does this trade amount to? In the East they find it hard to compete with American labor, and if they return to their tribe they have nothing to do, because no industries exist there.

Under some of the Indian villages there is an immense water-power, which may be obtained in the form of artesian wells. In one village there are several of these wells, running different kinds of factories where Indians are employed. At this occupation they are found to possess natural skill, as would be indicated by their manufacturing snow-shoes, canoes, baskets, bows, arrows, etc., in times past.

Industrial education, then, must go hand in hand with the school, which stimulates an ambition for accumulation of property. Now to solve this question we will say: first, establish a belief that the Indian can be civilized; second, pursue a well defined policy; and, third, take the management of the Indians entirely out of the hands of politicians. They have been dealt with cruelly, and without any

well settled purposes of civilization; but there is yet time to make amends, and save our country the credit of having conquered, yet preserved and civilized, a most interesting race of people.

A. W. COLBURN '97.

THE STUDY OF ANCIENT HISTORY

When the young student begins to study history, he usually thinks of his work as the memorizing of certain facts and dates connected with the lives of great men or with great events. His mind is attracted by the stories of fierce battles and brave soldiers, and he usually gains the impression that the world's history has been shaped mainly by a comparatively few heroes and statesmen.

But as his mind becomes somewhat maturer and his studies deeper, the student sees that great men have in nearly all cases been merely the leaders along lines of thought and action, the origin of which is found among the common people. The study of ancient history, coming as it does in the more advanced part of the school course, brings this fact very clearly before the mind of the thoughtful scholar. For example: Marathon was won not only by the brilliant leadership of Miltiades, but also by the bravery of the Athenian citizens. Solon and Lycurgus did not invent the laws which bear their names: they wrote down existing customs and called them laws. We learn that the great movements of

ancient times, as well as of modern, were begun and carried on mainly by the popular support, and that they were accomplished, not in a few months or years, but only after long periods of time.

The student of ancient history is brought to realize that men before Christ were very much like men of the present era. We are accustomed to think of the ancient peoples as different from ourselves, but we find that they ate, slept, got angry, laughed, and cried just as people do to-day.

The stories of the bravery and of the strength of the ancients, which are commonly received as history, have made us regard the heroes of early times as much braver and stronger than ourselves. History, separating as far as possible all error and untruth from these stories, shows that the old heroes were but little, if any, braver or more proficient in athletics than men of to-day. The Spartans at Thermopylæ showed almost superhuman courage, but it requires as high a degree of courage to face the "leaden hail" of a rank of soldiers armed with modern rifles. Even the winner of the Olympian games might quail before the rush line of a college foot-ball eleven. It was thought a wonderful feat for a Grecian runner to cover one hundred and fifty miles in thirty-six hours, but modern runners have done it in less time. We are little, if any, inferior to the old Greeks in athletics, and the history of modern wars is as full of instances of indi-

vidual heroism as the Iliad or the Æneid.

We find that many of our famous stories were told for the first time many centuries ago. The young son of Rameses, king of Egypt, was amused by the story of Cinderella. In connection with this subject, a curious fact has recently come to light. It has been found that Mark Twain's story of the wonderful leaping frog is the same as a tale told by a Greek writer two thousand years ago. The superstitions of the old Chaldeans have hardly yet ceased to influence men's minds. Solomon said, "There is no new thing under the sun." Ancient history furnishes many striking illustrations of the truth of his statement.

We often hear of "the good old times." It seems to me that the expression is misleading, and that the great lesson of ancient history is, that while the old times may have been good, the present time is better, and that the future times will be best.

H. F. MOORE '98.

THE PLACE OF THE NOVEL IN LITERATURE

THE place of the so called novel in literature is uncertain, because the word includes so many different kinds of composition.

Perhaps no term is so generally and so ambiguously applied as this, for some of the finest and some of the poorest works in literature are given this name.

We have the historical novel, as

Sir Walter Scott's "Ivanhoe." This style of work is written to promote a general interest in history by presenting the different subjects of history in such an interesting manner that one is sure, besides enjoying their story, to glean and store away many historical facts.

Then there is the moralistic novel, as "Ben Hur: or a Tale of the Christ," by Lew Wallace. This is the kind of novel that illustrates moral precepts. If we take this book and read it carefully and thoughtfully we shall find that we have learned a great deal concerning the time when Christ lived, the customs, manners, and religions. But above all is the moral influence of the book, the part that lifts us above and beyond our mortal selves, into higher and nobler regions of thought, whose influence others will feel. Thus it is in all good moralistic novels; we are brought to see that even in our common, everyday lives we may so live that our good example and influence will be seen and felt by those around us, and they will be benefited by the association.

The philosophical novel embraces both the moralistic and scientific. In the scientific novel we find thoughts on sciences, which we can read and enjoy, woven as they are into the story; otherwise, reading the bare statement of facts, we might consider the sciences, in a measure, uninteresting. Probably the majority of people would leave the scientific treatise undisturbed, but science being presented in such an agreeable form is read and enjoyed.

So we see that a good historical or philosophical novel, which includes the moralistic and scientific, may be placed with the highest class of literature. Novels are written for miscellaneous purposes. One is, to advance certain original ideas. For instance, a person wishing others to see the advantages of a certain new enterprise finds he cannot interest the people in the subject by presenting it to them without embellishment; but by taking his ideas and weaving them into a story, with a good plot, characters, and style, he can better induce them to see the advantages of the enterprise. This style of novel is placed lower than first class, yet many of this class may be good.

The number and styles of novels are almost innumerable. Some are good and some are not. How, then, are we to judge which are profitable to read and study and which are not? We can judge by the plot, the delineation of characters, and the style.

If the style or way it is written is good, but the plot not correspondingly good, or if the characters are exaggerated by being perfectly good or completely bad, and so untrue to nature and not life-like, then the novel is deficient in some of its most important points. And it is the same if the plot and delineation of characters are good but the whole is written in poor style.

Therefore when we wish to read a novel we can judge its quality by examining these important parts,—the aim, the plot, the delineation of characters, and the style.

And the novel that can bear this scrutiny of its principal points may surely be placed among first class literature.

MABEL E. BUNKER '97.

GROWING CELERY

THE demand for celery is rapidly increasing. As this is a plant somewhat peculiar to the taste, nearly everyone has to learn to like it, and although repeated efforts may be necessary for some in order to cultivate their taste, few, if any, fail to appreciate the celery plant ultimately.

Many would undoubtedly be surprised on learning to what extent celery is cultivated at the present time, and yet we think it safe to say that at no distant date the demand for this garden product will be doubled, and very likely quadrupled, so there is no doubt about finding a ready market for a first-class article. Celery is not a difficult plant to grow, and, for those who understand it, is a good-paying crop to cultivate; but those inexperienced in the business will do well to begin with a small garden rather than a large field.

Some celery growers buy their plants at the time of setting, but the majority of the best celery producers raise their own plants.

The seeds for the early crop should be sown about the twentieth of February, in flats containing two inches of loam, which should be firmly packed. The seed is then sown and firmed in the soil. A covering of perhaps an eighth of an inch of loam is then spread over the surface, and a

sufficient amount of water applied to thoroughly moisten the soil.

Germination will usually take place within ten days or two weeks after sowing. When first up they are delicate, and care should be taken to see that a sufficient amount of water is used to keep the soil moist; they also need protection from too much air and sunlight.

Unless one wishes to grow more than is necessary for home consumption, a few small boxes placed in the house will furnish ample opportunity for sprouting the seed. Get a small package of seed from some reliable dealer (the White Plume is probably the best, although the Golden Self-Blanching is an excellent variety). When the plants are about one and one half inches high they should be picked out into flats or boxes, so that they shall stand about three inches apart; in this condition they should receive a liberal amount of water, and be kept growing until the ground is ready for them.

The celery crop invariably requires a large amount of water, consequently a soil containing humus in abundance is well adapted to its needs; therefore a mucky soil is to be recommended.

Celery yields the best returns when on a rich, well-fertilized soil that has been thoroughly pulverized. Before setting the plants the soil should be well firmed, not simply for furnishing a smooth seed bed, but to aid the capillary attraction of the soil, so that the ground water may be drawn up to the roots of the plant.

To facilitate in setting the plants a pointed stick may be used, or, if nature's implements are desired, the forefinger may serve to make indentations in which to set the plants. The soil should be well packed around each one.

The custom has been to have the rows about three feet apart, leaving intervals of five or six inches between plants. As the crop advances towards maturity, bleaching is accomplished by earthing up about the plants, or by placing boards eight or ten inches wide on each side of the row; but the latest, and undoubtedly the most practical, way is to set the plants six or seven inches apart each way, leaving out every fourth or fifth row, so that one may get about to water the crop, if necessary. By so doing the foliage of the plants covers the ground so completely that all care and labor heretofore spent in bleaching are now done away with.

For those who want a constant supply of celery from the beginning of its season until the middle of the winter or later, preparations should be made for a late crop.

I would recommend sowing part of the bed with Giant Pascol and the remainder with New Rose, both of which are standard varieties. Celery seed will withstand a great deal of cold weather without being injured, therefore it should be sown as soon as the ground can be prepared, which for this locality would probably be about the last of April.

After the seed has been sown, care should be taken to keep down all

weeds, which, if allowed to grow, would destroy the delicate celery plants. As soon as these plants are large enough, they must be thinned out so that about thirty-five plants to the foot be left in the row. Keep them growing in this way until sometime in July, when they should be set out in the place which has been selected for growing the crop. There is, however, one difficulty in growing the late crop which all celery growers have to contend with and remedy as far as possible: the dry weather, which usually manifests itself during the month of July, will often destroy the crop unless some artificial means have been supplied for furnishing water.

When all conditions are favorable, a rapid growth may be expected through the month of August and until about the middle of September, when the process of blanching should begin.

The late crop does not require as much care in bleaching as the early crop, and many growers store it away when the stalks are quite green, with the expectation that it will be sufficiently bleached when wanted for use later in the season; however, it is better to have it well bleached before packing away for winter use.

The cellar will usually serve as a good place for storing the winter supply, if the roots be kept moist. With a cool atmosphere, even temperature, and good ventilation, the plants may be kept as fresh and crisp as when taken from the field.

The late crop may frequently be

started between the rows of some early vegetables, thus making the land produce two crops in one season.

Michigan is perhaps the leading state in the production of celery. Mr. H. L. Stewart, of Tecumseh, Mich., deserves mention in connection with this subject. Having purchased 100 acres of low, mucky land, which nearly every one considered valueless, he began cultivating celery. He now appropriates the larger part of his field to the production of this one crop, and in the busiest part of the season employs over thirty hands.

F. C. B. '95.

N. H. C. v. BATES

THE college foot-ball team left Durham Saturday morning, for Lewiston, Me., where they arrived at 2:40 p. m. The game was called at 3:30.

Captain Dudley won the toss, and chose the lower goal. Bates kicked off and N. H. C. fumbled. Bates then pushed the ball down the field by short, quick rushes, and secured a touch-down within five minutes from the time the game was called. Score, Bates, 6; N. H. C., 0. N. H. C. then kicked off to Bates and soon secured it on four downs. Morse and French then advanced the ball twenty yards. DeMerritte was given the ball and went through the line between tackle and end, and with admirable interference and support he passed the Bates men and secured a touch-down, but failed to kick a goal. Score, Bates, 6; N. H. C., 4. Bates now kicked the ball, and N. H.

C. lost on four downs. By good interference and short rushes Bates secured another touch-down and kicked a goal. Score, Bates, 12; N. H. C., 4. Time was soon called, with the ball near the centre of the field.

In the second half N. H. C. kicked off to Bates, and after a hard struggle Bates secured another touch-down and kicked a goal, making the score 18 to 4. N. H. C. then kicked off to Bates, but were steadily rushed back to the goal line. N. H. C. kicked, but the ball hit the cross-bar, and they were forced to make a safety. The ball was placed on the 25-yardline, where DeMerritte kicked. Morse was obliged to give way at this point of the game to Vickery, and then Bates secured ten yards on an off-side play, and finally secured a touch-down and goal, making the score, Bates, 26; N. H. C., 4. DeMerritte was injured so that Hunt took his place. N. H. C. kicked off, and Bates rushed down the field; but time was called, leaving the final score 26 to 4.

The Bates team averaged 173 pounds, while our own averaged 155. Considering everything, the game was very satisfactory to N. H. C.

The features of the game were the playing for Bates of Wakefield and Pulsifer, and for N. H. C. the kicking of DeMerritte, his good running, and the interference and work of Trow, Young, and Morse.

The team arrived home early Sunday morning, where they were cordially greeted by the students. Below

will be found the way the teams lined up:

BATES.		N. H. COLLEGE.	
Hinkley	l. e.	Trow	
O. E. Hanscom	l. t.	Russell	
Hoag	l. g.	Wiggin	
Brown	c.	Whittemore	
Young	r. g.	Dudley	
E. I. Hanscom	r. t.	Young	
Wakefield	r. e.	Forristall	
Douglass	q. b.	McKenna	
Pulsifer	r. h. b.	French	
Files	l. h. b.	Morse, Vickery	
Parker	f. b.	DeMerritte	

Score—Bates, 26; N. H. C., 4. Touch-downs—Parker, Pulsifer (2), Hanscom, DeMerritte. Goals from touch-downs—Brown (4). Referee—Murphy. Umpire—Howe. Linesmen—Small and Thompson. Time—Two 15-minute halves.

COLLEGE NEWS

THE trustees held a regular meeting of the board in the president's rooms in Thompson Hall, October 10.

Seven of the students attended the Y. M. C. A. prayer-meeting held October 6, in Madbury town hall.

Mr. Bartlett of Manchester has been in town superintending the putting in of a furnace in DeMeritt Hall. Mr. Bartlett has done most of this kind of work in town.

At a meeting of the students, after the chapel exercises, the students voted to recommend to the trustees that a gray uniform be adopted.

Mr. Lewis H. Kenney '97 successfully passed his examinations and has entered the Webb academy, N. Y. We are sorry to lose Mr. Kenney, but it is a credit to the college to be thus represented.

An entertainment will be given by the Culver Literary society in Thompson Hall, November 9, to the students and faculty of the college.

A new and enlarged postoffice shows the literary ability of new and old students.

Professor and Mrs. Morse gave a reception to the senior and junior classes October 1.

Mr. Teeple has purchased a bicycle.

E. R. Shaw has been elected treasurer of the Athletic association.

The sophomore class have recently come out with new canes.

Mr. H. W. Rice '97 has left college on account of trouble with his ears.

R. H. Shaw '98 has been absent some time on account of sickness.

Combination locks have been put on the lockers in the college shop.

E. H. Hancock recently took a trip to Reed's Ferry.

E. R. Shaw took a short trip home.

A foot-ball team from McGaw Institute will play here November 3.

Miss Fannie Smart '98 has left college on account of trouble with her eyes.

J. L. T. Shaw and W. F. Buck met with an accident coming home from the Lee Harvest supper.

W. L. Berry '97 recently received a visit from his father.

The rhetorical speakers and readers, on October 3, were,—F. S. Adams, Miss Mabel Bunker, Miss Carrie Bartlett, G. H. Chamberlain, J. W. Coe, and F. R. Chase.

The college professors are giving lectures every Thursday in the upper grade of the town grammar school.

The worst accident in foot-ball practice this year was received by Taft '98, who so injured his knee that he will be obliged to remain at home for some weeks to come.

Professors Pettee and Whitcher attended church in Farmington October 7, making a long drive of forty miles.

W. F. Buck and D. B. Bartlett '97 made a four days' visit in Manchester.

Dr. Lamson had an exhibit at the Merchants' fair, held in Manchester.

Butterfield '98 has returned after a short absence from college.

Coleman '98 has left college, presumably on a lecturing tour.

Mr. G. W. Twombly, the last year's Exeter centre, gave a talk to the foot-ball team in Thompson hall, October 10. Since then he has acted as coach for the team.

L. H. Kittredge, the foot-ball manager, has been away to settle dates for games.

The present method of supplying the Congregational pulpit brings us some very pleasant visitors. Among the list are Rev. Mr. Hall of Manchester, Rev. Mr. Kimball, a senior in the Andover Theological school, and Rev. Mr. Nelson.

The result of the freshman class editorship competition was the choice of H. M. Chamberlin as editor for that class.

Two of the late additions to the freshman class are Earnest S. Osborn and Albert L. Meader, both of Rochester.

The class pictures of '97 have arrived, and are considered very good. J. L. T. Shaw has the disposal of them.

After the first game with Exeter second, the students indulged in a big bonfire on the knoll east of Thompson Hall.

A meeting of the college students was called October 17, to appoint a committee to select college yells. Also a committee to secure a college pin or button. The committee for the former were F. C. Britton '95, E. R. Shaw '97, H. M. Chamberlin '98. The committee for the latter were L. H. Kittredge '96, W. F. Buck '97, Miss Bernice Caverno '98.

The rhetorical exercises on October 17 were unusually interesting, and consisted of orations by F. C. Britton, on "The Greatness of Napoleon;" H. W. Barney, on "Savings Banks;" L. H. Kittredge, on the "American Protective Association." The readers and their subjects were "Scenes from the Life of Oliver Twist," Miss Abby Chamberlin; "Has the Recent Tariff Legislation Been a Failure?" F. B. Clark; "Education of the Indians," A. W. Colburn; "View of a Great Factory," I. L. Dennett.

The sociables at Lee, October 11 and 16, were attended by the usual enthusiastic students.

A new house is being built opposite DeMeritt hall by Mr. Fred Jenkins. The house will be rented to college parties. Another house will be built next summer on the foundation which is completed, on the next lot to Mr. Lowell's.

The lower part of the town has been piped, a tank put in and connected with a large windmill. A number of street lights have also been added.

Among the visitors are some of our last year's students, Mr. A. W. Given, who is teaching school near home; Mr. J. A. Janvrin, who is in the apple business; Mr. J. A. Edgerly, and Mr. L. G. Shattuck have also been with us.

New students arrive every little while, and the freshman class will soon hold its own.

A. E. Warner '98 went home to Riverside, R. I., for a few days the middle of last month.

The freshmen class have chosen gold and white for class colors, and they will soon have a class pin.

The training table is located in DeMeritt Hall for this term.

It is expected that a game of football will be played, here, with the Andover Second eleven on November 10. Other games are scheduled but the dates cannot be given with certainty.

A number of students went to Dover, October 13, to see the football game between Bowdoin and Bates.

W. L. Berry '97 has left college.

Quite a number of students have been picking apples for the College. A few falls have resulted.

The military company has been divided into six squads, in charge of Hancock, Bartlett, Shaw, Dennett, Buck, and Chamberlin. The late squad is under Lieutenant Hodges and meets from 12:20 to 12:50 p. m.

Mrs. Eunice Smith visited town early last month. She expects to reside here this winter, and her son, Smith ex-'96, will enter the '98 class.

DeMerritte '97 has recovered the use of his right hand, which was injured in foot-ball practice.

Trustee Albert DeMeritt has returned from a short trip to Virginia.

Mr. John Fuller of Hanover was in town October 11-13, visiting at Professor Wood's.

THE USES OF A WASTE PAPER BASKET

AMONG those things which are of great convenience and utility, the waste paper basket takes a high place. Scarcely any other of those articles of small furniture, which we find so necessary to our lives, can be mentioned that occupies so wide and so varied a field of usefulness.

To this universal receptacle the editor consigns his rejected manu-

scripts; the business man his unpaid bills, writing afterwards to his creditor that he will pay next month; the minister with sad and mournful look, his unsuccessful sermon, and so on, rich and poor alike, crush into its wicker embrace all their useless paper.

In fact, the waste paper basket is a kind of mental sewer, an intellectual garbage cart, as it were. Still many find within it articles of use and value, just as rag pickers and junk collectors make their living by picking over the waste heaps of a great city.

The youthful stamp-collector digs to its lowest depths in search of stamps, postal cards, franks, etc., with which to embellish his album, and add to the value of his collection. The rag-man in his peregrinations will take a few pounds of paper off your hands, and pay you a few cents beside.

And then what a boon, yea, verily, a mine of comfort, it is to the man who gets up on a cool December morning to kindle the fire. By its kindly aid he is often saved a cold journey to the shed for kindlings.

If we wish to find the waste paper basket in its most varied field of usefulness, we shall do well to consider for what the college boys use it. It makes a very good foot rest sometimes, especially when it tumbles over and scatters its contents far and wide; a very good cage in which to confine the '98 Mascot cat, etc., etc.;

a very convenient place to throw your tennis balls when you come in tired out with a hard deuce set; a *very* nice place indeed, when you discover next morning that the janitor in his careless haste has cast them into the fire, along with the rest of the contents.

Perhaps the janitor knows as much about college boys' waste paper baskets as any one. Let us watch him some morning, as he journeys from room to room, sweeping and collecting the waste. Here is a basket filled with apple cores. Immediately visions of apple orchards by starlight, pugnacious dogs, and doctors' midnight visits flit across our minds. A copy of "*Judge*" disappears into the janitor's large bushel. Evidently this fellow prefers fun to study. And what is here? a champagne bottle and some cigar stubs? Somebody is getting a little fast, we fear.

The janitor now brings out a basket filled with papers, covered with cos. Ls tan. X's and Ys, with French translations and Latin conjugations. This is the basket of one who burns the midnight oil, and, no doubt, gets an aching head and a high rank for his trouble.

One might go on at great length, studying the queer, interesting, and useful applications of the waste paper basket, but as it is our opinion that the sooner this "compo" reaches that "blest abode," the better, we will call it quits.

H. B. FIELDEN '98.



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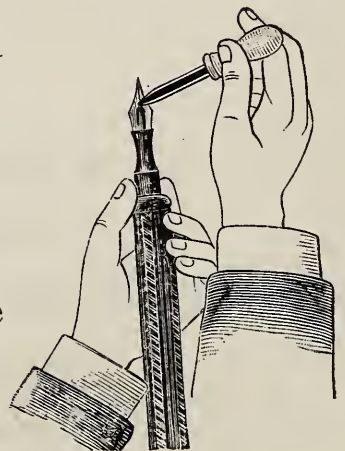
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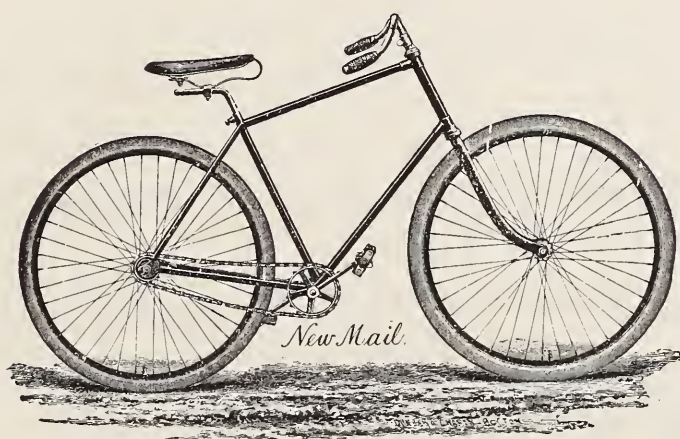
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COLLEGE BULLETIN.

Q. T. V.

Fraternity meetings, Thursday evenings.

Culver Literary Society.

7:30 p. m.

Friday, November 9; Friday November 23; Friday December 7.

Chas. A. Trow, *Pres.*

Mabel E. Bunker, *Sec'y.*

Chapel Exercises.

Week-days at 12:07 p. m.

Sundays at 5:07 p. m.

Military Drill.

Monday, Tuesday, Wednesday, Friday, and Saturday, at 7:30 a. m.

Y. M. C. A.

Meetings every Tuesday evening in Thompson Hall at 7:30.

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Saturday, 1:30 to 5:00 p. m.; other days, 4:00 to 5:00 p. m. Reference room, 9:00 a. m. to 12:00 m.; 1:30 to 5:00 p. m. Reading room, 9:00 a. m. to 6:00 p. m.

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5:26 p. m.	7:23

SUNDAYS.

6:44 a. m.	
2:56 p. m.	8:25 p. m.
6:13	

College Entertainment.

By the Culver Literary Society in Thompson Hall, Friday evening, November 9.

THE
NEW
HAMPSHIRE
COLLEGE
MONTHLY .

DECEMBER

1894

VOL. 2

NO. 4

Holiday Number.

THE NEW HAMPSHIRE COLLEGE MONTHLY.

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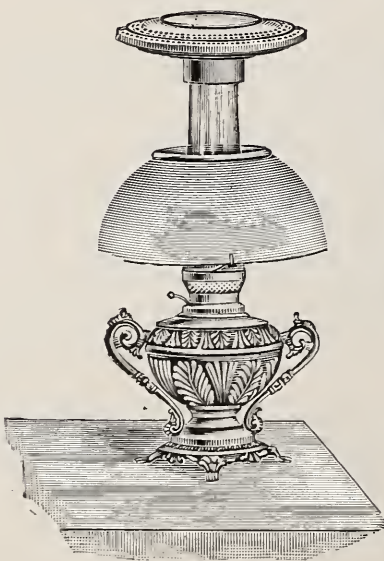
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PROFESSOR CLARENCE W. SCOTT.

THE
NEW HAMPSHIRE COLLEGE
MONTHLY

VOL. 2

DECEMBER, 1894

NO. 4

THE COLLEGE OUTLOOK

IT is with much regret that we chronicle the loss of the Experiment Station barn. The fire originated from some unknown cause, being first discovered on the third floor. The harvest which filled the barn on every floor, only added to the intensity of the fire. Every effort was put forth by the students to save the structure, and the manner in which they conducted themselves has received the approval and praise of the faculty, many of whom wish to personally express their thanks in the MONTHLY. To the credit of the military drill we owe much of the prompt manner in which the students responded; and we cannot say too much in favor of the water system and the manner in which the pumps were operated. But for the water supply the loss of at least one other building would have been added. It would not be right to overlook the ready response of the townspeople who were on hand, and

assisted in doing all that was possible.

On account of the lateness of the season it will be impracticable to build again before spring, and the trustees have decided to do so then. At present the old barn north of the athletic field has been made very comfortable for the cattle, by extensive repairs, and will serve very well until next year when the new one will take its place.

*

* *

The MONTHLY is not a political paper in any sense of the word, but it is interested in the success of its friends and alumni, whether in politics or any other sphere. In this connection we are glad to note the election of Mr. Harvey L. Boutwell, of Malden, to the Massachusetts house of representatives. Mr. Boutwell's portrait appeared in the June issue and we refer our readers to

that number for a short sketch of his career. He is the first graduate of the New Hampshire College to occupy a seat in the Massachusetts legislature, although the college has sent graduates to the New Hampshire house.

The second year of the existence of a regular New Hampshire College foot-ball team has reached its close. Last year the team played but one game and was defeated. This year it has played five and won two, but it played good foot-ball against Bates and St. Anselm. The team did not expect to win from these two colleges but did very well in scoring on Bates.

We have had a fairly heavy team although the backs have been rather light. Next year we should have a heavy team including the backs. With a freshman class of from fifty to seventy-five we ought to be able to develop some good players.

The team has been taught a very good lesson this year which every team must learn early in its career, that is, being too confident and thinking that they can play as well without practice as with it. They learned this from the result of the first game with Dover High school, where New Hampshire College was defeated ten to four. This aroused the team, and they immediately set to hard work, the value of which was shown in a game a week later, when they defeated Dover by a score of twenty to six.

CAPTAIN DUDLEY.

° THE LAUNCH OF THE ST. LOUIS

ONE evening the resident manager of Webb's academy called all the students into one of the drawing-rooms and informed us that Mr. C. H. Cramp, who is one of the trustees of this academy, had invited us to be present at the launch of the St. Louis, which is the largest steamer ever built in this country, and also that Mr. Webb would send us under the guidance of our instructors. He told us that we would start early Monday morning, November 12, so as to get to Cramps' ship-yard before the launch, to learn all that was possible about launching a ship.

At last Monday came. We were all stirring by half-past three o'clock, as breakfast was waiting for us we were soon ready to start.

We took the 4:27 a. m. train, and in about six and one-half hours we were in Cramps' ship-yard with the St. Louis almost directly in front of us. To the right was the St. Paul, her sister ship, not yet completed.

Three of the students who style themselves "official photographers," now started out to get some photographs of the ship. They took photographs of her from different positions, of the ways and the blades of her propellers, which were on shore. The ways gives an idea of the size of the ship. There are three blades to her propellers, and a large hub to which the blades are fastened. The ropes, down the sides of the ship, are to steady the ship in the upper ways. While going around we were looking to find out all the information possible.

The ship now rested on her keel-blocks; these are placed at an interval of about three feet, on an incline of about five eighths of an inch to the foot, so as to give the requisite pitch in launching.

The ways are beams, strongly braced. They extend the entire length of the ship and down into the water low enough, so that when the ship gets to the ends of them she will be floating.

The launching ways consists of the lower and upper planking, between which is spread several thousand pounds of the best tallow. Above the upper way, and in which the ship rests, is the cradle; wedges are inserted between these. When the ship is ready to be launched these wedges are driven in by battering rams. This presses the upper ways against the lower and raises the ship enough to enable the keel-blocks to be knocked from under her, and the shores to be taken down. The lower and upper ways are bolted together near the bows of the ship so that after the keel-blocks and shores are out of the way the upper ways are sawn apart, and the ship begins to glide down the ways.

The battering rams are pieces of heavy wood about four by six inches by five feet; through each end is bored a hole and pieces of rope inserted, which four men take hold of and at the word of command are ready to begin work. A railing is built around the ship on a level with the wedges, which is to aid the men in using the battering rams.

After this we started for headquarters to get permission to go under the ways to learn more thoroughly the method of launching a ship. We started out with the letter to find Mr. Lewis Nixon, late lieutenant United States navy, now chief naval constructor in Cramps', who was to explain the method of launching the ship, but as we could not find him and it was almost time for the launch we decided to go to the stand to which our tickets admitted us. These stands are platforms built up to enable the invited guests to get a good view of the launch. There was the bow-platform where Mrs. Cleveland stood when she christened the *St. Louis*. On the platform was President Cleveland and his cabinet, also other distinguished guests. The *St. Paul*, which was near the *St. Louis*, was reserved for the families, relations, and friends of the employés. Every other position of vantage was taken. Tug and excursion boats almost filled the distance between the Pennsylvania shores and the island in mid-stream. Down under the bilges of the steamer about nine hundred workmen of the yard waited to begin the work of launching.

At 12:15 p. m., the president and his party arrived, but before this the workmen, at the command of Mr. Nixon, had begun driving the wedges with the battering rams to raise the steamer, so that the keel-blocks could be knocked from under her and she would rest on the ways. After the men stopped some went

under to knock out the keel-blocks and take down the shores, which are props to support the vessel. As the hour approached the men again commenced their work, and all that could be heard was the thud of quickly planted blows, as Longfellow puts it,—

“ All around them and below,
The sound of hammers, blow on blow,
Knocking away the shores and spars.
And see she stirs !
She starts,—she moves,—she seems to feel
The thrill of life along her keel,
And spurning with her foot the ground,
With one exulting, joyous bound,
She leaps into the ocean's arms !”

In this case substitute the word “ battering rams ” for “ hammers,” because these ships nowadays are so large and heavy, and the wedges so near together, that a hammer is impracticable.

As the *St. Louis* began to glide down the well greased ways, Mrs. Cleveland broke the traditional bottle over her bows. When she was clear of the ways and floated in her natural element, a gun was fired from her deck. She was saluted by the cheers and shouts of the multitude and the screech of steam whistles.

The steam siren of the *Minneapolis*, United States navy, made about as much noise as the whistles of all the tugs put together. You can get some idea of the noise this “ siren ” makes, when I tell you that it can be heard ninety miles at sea, and we were only about one hundred and seventy-five feet distant.

In sliding down the ways the *St. Louis* had gained considerable momentum ; to check this and prevent

her from running ashore on the other side of the stream, her star-board anchor was let go first, then the port one, but the chain of this one, unable to bear the tremendous strain, parted. The company were prepared for an emergency like this, and a float was thrown overboard, which was connected to the anchor, in order that they might find the anchor without difficulty. As soon as her momentum was overcome she was taken in tow by tug-boats and taken to her pier in the yard, where she will have her boilers and engines put in and the finishing touches given her. She will probably be ready for service on the American line next spring.

The first frames for the hull were raised July 7, 1893. Her construction has covered a period a little over fifteen months, in which time over six thousand tons of material have been worked into her hull.

Everything that ingenuity and experience could produce has been brought to bear in the construction of the *St. Louis*, and when she is ready to begin her work for the American line, she will probably be the most thoroughly equipped steamer of the coast.

After the *St. Louis* had been towed to her pier we went over to take a photograph of her, but as the light was not right we had to give it up.

We then went through the yard. The ships now under construction are the *St. Paul*, *Brooklyn*, and the *Iowa*. The latter when completed will

be the most powerful warship afloat. We also went through some of the shops. After this we started back for the academy, and arrived a little after nine o'clock, tired and hungry, but having had an experience which we will never forget.

L. H. KENNEY,

Fordham Heights, N. Y.

A DAY-DREAM

Beside the murmuring waters
Of a brook in a forest glen,
Where the winds sigh through the tree-tops,
And the birds make the echoes ring
With their music wild and sweet,
There am I wont to linger
'Neath the shade so cool and deep.
One day as I sat dreaming,
Building castles in the air,
I saw through the shadows approaching
The form of a maiden fair.
Graceful and tall and queenly,
Clad in garments strange and white.
In her face was such rare beauty,
Such a radiant kindly light,
I was lost in admiration,
Daring not to make a motion,
Lest she vanish from my sight.
But she came and stood before me
With a smile, whose kindly sweetness
Made my heart in rapture beat,
And an air of charming frankness
At my side herself did seat.
"Tell me dost thou know me?
Thou whose very inmost soul,
Every hope and inspiration
I, and I alone control?"
Bewildered then I answered,
"Indeed, I must say thee nay.
Pray tell me maiden who thou art,
Didst thou seek me here to-day?
Or art thou a woodland spirit,
Who has wandered by chance this way?"
With a laugh like the rippling waters
Rushing onward at our feet,
Flinging back her wind-tossed tresses,
Thus again to me did speak,
"Didst never dream that o'er thy life
Is placed a guardian star?
That holds for thee thy destiny,
And guides thee from afar?
Do thy thoughts not often wander
To that ideal of thine,

Whose image in yon day-dreams here
Rises often in my mind."
She 'rose, and then I knew her,
With a bound I reached her side.
"Ah! Fair one, now I know thee,"
With eager haste I cried,
"'T is thou who art that same ideal,
And didst thou come to seek me,
Answering thus my heart's appeal?"
Again she spake, "Not long may I remain,
So listen, O thou favored one,
For to thy star—whence I came—
I return ere the setting of the sun.
In thy future, joy and happiness
Dost thou desire to gain?
In thy destiny 't is written
That this thou shalt attain,
If thou will always faithful
Be, to thy ideal.
Follow this thy star's decree
And at last, on earth, immortal form,
Again will I come to thee."
She vanished and I stood there
Speechless with awe and wonder,
At this maiden so strange and fair,
But the night was fast approaching,
I turned to go, and from above did hear,
Borne on the wings of the evening breeze,
That voice so sweet and clear,
"If in life thou would be happy
Be true to thine ideal."

"GREX."

PROFESSOR CLARENCE W. SCOTT

PROF. CLARENCE W. SCOTT was born in Plymouth, Vt., August 20, 1849. He received his early education in a Vermont district school, with several terms in various academies and a short course at the Randolph, Vt., normal school. He prepared for college at Kimball Union Academy, Meriden, N. H., spending the winters teaching, and entered Dartmouth College in 1870, teaching three winters during his college course and graduating in 1874.

Professor Scott was the librarian of Dartmouth College from 1874 to 1878, and part of that time gave instruction in the New Hampshire College. In December, 1879, he was

admitted to the bar in Windsor county, Vt. For the three years following 1878 he gave instruction in English and political science in this college and in 1881 was made Professor of English Language and Literature, the chair including history and political science. In 1894 the title was changed to that of Professor of History and Political Economy, although he continues to give instruction in English literature.

Some years since Professor Scott was married to Miss Harriet C. Field of Duluth, Minn., and they have one son.

As an instructor Professor Scott is very much liked, and is one of the students' best friends.

A CHRISTMAS STORY

IN a little village there used to live a man with his wife and four children, of whom the oldest, Ruth, fifteen years old, was very delicate. Her father was a shoe-cobbler, and as he was not a particularly industrious man and relied wholly on little jobs of mending boots and shoes for his living, he did not realize much of an income. He was generally called a good man, and had never been known to be intoxicated. But nevertheless he spent each year quite a large proportion of his small earnings for beer and ale, furthermore he smoked almost constantly.

His poor daughter Ruth was obliged to go without those few delicacies which are so pleasing to invalids. Her mother, a hard working woman, had to be very busy daytimes with

her household duties and managed to earn a little money only by taking coarse sewing home to do evenings when she should have been resting. In this way she managed to keep her table more abundantly supplied with cheap food than her husband alone could possibly have done unless he had been willing to give up his beer and tobacco. Thus the family, although perhaps never hungry, lived very poorly.

Ruth grew, day by day, decidedly worse, and her father became more and more down-hearted as the days wore on and found his daughter paler and less cheerful. At last a day came when Ruth could not even raise her head from the little couch that her father had made for her and had placed in the front room near the sunniest window. Her mother had started some slips of the most common plants, which gave an air of brightness to the otherwise gloomy room, and her father had placed some rude shelves across the window from top to sill so that only small spaces were left through which the sunshine could pour in. But when it shone very brightly the plants, even in their tin cans, looked truly beautiful; and as the rays cast their shadows and their tiny flashes of light across the room, the sick girl would watch them and would always seem brighter. But on this particular morning, although the sun shone in as brilliantly as ever, and although many of the plants were in bloom, instead of the sun brightening her eyes and bringing an interested look to her

face, it disturbed her. So the plants were first removed from the window, then a thick blanket, owing to the lack of blinds, was hung from the top of the window.

It was truly a most pitiful sight to see. The wan girl on the old worn couch, the tired mother bending over the child and offering her some bread and butter and a glass of skimmed milk; for the mother in spite of her hard efforts to do better could not buy good fresh milk for her sick daughter. There were also present Ruth's two brothers, one a mere baby, and her six years' old sister, who stood looking on with that peculiar look of childish anxiety which seems to be half pity and half wonder, while the father sat in a chair near her side with a very troubled look on his face. He went to his work that day much later than usual, and went realizing something he had scarcely thought of before;—this was, that if ever Ruth was to get better she must have more inviting food. But then he thought, how am I to get it? I am too poor. Now it never had occurred to him until this morning that he could just as well go without his beer and tobacco, and that it would be more kind and more wise for him to go and buy his sick child some sort of a delicacy and give her a surprise at noon when he went home to dinner. He had never stopped to think of what his beer and tobacco cost him in the course of a year, but now he reckoned up the cost and found that it amounted to more than his house-rent. Then he resolved not to smoke

or to drink any more beer or ale. But when at noon he passed by the familiar saloon, where for years he had been a frequent caller, he found that it required a little more real effort than he had supposed. And then when the saloon-keeper saw him going past and called out in half drunken tones, "Hello, John, ain't ye a-comin' in this noon?" the man halted. He was just taking a step toward the door where the bartender stood with a beastly grin on his swollen face, when a sound of children's voices, joined in singing a Christmas carol, came to the ears of both men. One of the men did not apparently even hear the children, but the other one did. He thought of his sick child at home unable to sing, and as he heard the word angels mentioned in the little song he thought of something he had seldom stopped to think of—that Ruth was liable to die at any time. He had actually forgotten that the next day was Christmas, and had it not been for some school children who passed by singing at just the right moment to remind him of the fact, he would very likely have forgotten all about it; but now he thought, "I will go and buy something for Ruth instead of getting my ale." He stepped back from the door saying, "No, I am in a hurry," and passed on down the street thinking of the time when he, too, was a happy school boy and used to stand with his schoolmates and sing Christmas carols. Then his thoughts ran on to the many dreary and poverty stricken Christ-

mas days which he and his family had spent, and now, for the first time in many years, a tear rolled down his cheek. He started home and on his way he bought several delicacies for Ruth's dinner. They were simple and cost but little; but he returned home a stronger man and with a much lighter heart than when he had left in the morning. He walked in and found his poor wife crying bitterly in the kitchen, and, thinking of what might have happened in the few hours he had been away, he rushed, before speaking, into the room where Ruth was. He was glad to find her not any worse. He went back to the kitchen and brought in the things he had bought for Ruth's dinner. We, who know nothing at all of what want is but who have ever been sick for any length of time, during which only the simplest food was allowed us, can perhaps realize a little how this poverty-stricken child felt at the sight of such a simple little lunch. It looked to her sumptuous. She was delighted and held an orange in her hand and admired it as much as many girls would admire a diamond ring. At last she began her feast—for such it seemed to her—and after she had eaten one bun and drank a glass of good fresh milk, saving her orange for another time, she looked brighter than she had for some time before this. Then she took a short nap, after which she woke feeling much better. The next day she asked to have the sunlight let in so that she might see her plants; and as the days and weeks wore on she improved

greatly. Her father never forgot to bring home something suitable for her, and as it was not medicine which she had needed, but simply a change of diet, her recovery was rapid.

When the next Christmas came it found Ruth a well and happy girl in a comparatively prosperous family,—and all through the agency of a simple little Christmas carol sung by a number of children, sung with no special interest, except towards making a noise; and yet by their singing a whole family had been greatly benefited and at least one life saved. For if Ruth's father had not begun to buy things which she needed just when he did, she probably would not have lived.

EDDIE.

N. H. C. v. D. H. S.

THE Dover high school foot-ball team played a return game with the New Hampshire college team on the college campus, Wednesday afternoon, November 21.

The weather was not all that could be desired. The rain fell from the clouds in showers all the afternoon, thus making the campus wet and muddy, and from this reason a few costly fumbles were made on both sides.

The visitors having secured several players from out of town to help them, came here with a strong determination to win, but at the close of the game their ideas had changed.

N. H. C. won the toss, choosing the west end of the field.

D. H. S. kicked off to Russell who secured the ball and made a good

run but was finally downed on the N. H. C. 35-yard line.

The teams then lined up and by successive rushes N. H. C. pushed the ball to D. H. S. 15-yard line, the backs doing good work, especially Smith, who made a long run around the right end.

Then the ball was passed to DeMerritte who carried it over the line for the first touchdown. No goal.

Going back to the centre of the field the teams lined up with the ball in N. H. C. possession.

The ball was again put in play but was soon lost on a fumble.

D. H. S. was unable to gain and was forced to give up the ball on four downs. N. H. C. then took the ball and by a few steady rushes advanced it to D. H. S. 20-yard line. The ball was then passed to Dudley who got around the right end and placed the ball over the line. DeMerritte kicked a goal. N. H. C. kicked off the third time, sending the ball within 5 yards of the goal line. D. H. S. now handled the ball well and made a few good gains but soon lost it on a fumble. N. H. C. took possession of the ball and by a few runs around the end secured another touchdown. No goal. Score, N. H. C., 14; D. H. S., 0.

The last half D. H. S. started off in possession of the ball and made a few good gains, but soon lost the ball on four downs.

The ball now in N. H. C. possession was soon forced to D. H. S. 5-yard line, when Dudley went through the centre for a touchdown. DeMerritte

kicked a goal. This time D. H. S. kicked off, and after a few scrimmages N. H. C. lost the ball on a fumble.

D. H. S., thinking this was their last chance, gave the signal for a criss-cross. The ball was passed from Ham to Snow, who made a run of 50 yards around the end and secured their first touchdown. After this the game became interesting, both teams doing their best work.

During the remainder of the time the playing was all done on D. H. S. ground, and when time was called the ball was only 4 yards from D. H. S. goal line. No special mention need to be made of N. H. C. as they all did well in their positions, especially the ends and backs at blocking. For D. H. S. Snow and Ham did the best work. The line up was as follows:

N. H. C.		D. H. S.	
Forristall	r. e.	Marshall	
Young	r. t.	Leavitt	
Sanborn	r. g.	Foss	
Whittemore	c.	(Capt.) Calef	
Wiggin	l. g.	Lucus	
Russell	l. t.	Haley, Roberts	
Hunt	l. e.	Beede	
McKenna	q. b.	O'Neil	
Dudley (Capt.)	h. b.	Ham	{
Smith		Snow	
DeMerritte	f. b.	Hoye	

Score—N. H. C., 20; D. H. S., 6. Touchdowns—DeMerritte, Dudley (3), Snow. Goals from touch-downs—DeMerritte (2), Snow. Umpire—Mr. Teeple. Referee—Hall, Howe. Time—15-minute halves.

H. W. B.

The last year's business manager of the college paper, Mr. J. L. Caverno, was married October 25 to Miss Mabel Harvey of Nottingham. Mr. Caverno is in the grocery business in Durham.

SLEEP ENOUGH

Oh! I hate this gittin' up, gittin' up, gittin' up!
Oh! I hate this gittin' up wuss 'n dirt!

I would like to lay in bed till the evenin' sun
was red.

And if folks should think I'm dead 't would-
n't hurt.

I've been a-gittin' up, gittin' up, gittin' up.

I've been a-gittin' up forty year,

Sence I used to live to hum, an' my father
used to come

With his finger and his thumb on my ear.

I have been a-gittin' up, as I'm bound, as I'm
bound,

For I reckonize the fact as I'm bound.

Gittin' up before the fowls, with my eyes like
hooten owls,

While the voice of duty yawls, "Hustle
round."

And I've hustled round an' swore, round an'
swore, round an' swore,

An' I've scratched and fit and tore and hus-
tled round

'Till I'd like to take a berth in the cemetery
earth,

And just 'sleep for all I'm worth, under
ground.

I will lead a righteous life, righteous life,
righteous life,

I will lead a righteous life if I bust.

An' when Gabr'l sounds his trump startin
sinners on the jump,

I will wait the final dump full o' trust.

An' I'll go to Angel Gabe, Angel Gabe, Angel
Gabe,

An' I'll go to Angel Gabe an' I'll say:

"Don't you go for to salute, I'm a common
kind o' coot,

Just an onery galoot, plain as hay.

"You don't need to make no show, make no
show, make no show,

You don't need to put on style, not for me.

I don't want no harp an' crown, nor no shining
golden gown,

For my tastes is all low down like I be.

"Just you put me anywhere, anywhere, any-
where,

So it's some wheres I c'n sleep—sleep to stay.
Any shakedown you can fix when it's allus ha'
pas' six,

Where it gits to that and sticks, sticks all
day.

"An' send a nigger kid, nigger kid, nigger
kid,"

If they's colored angels there, as I s'pose,

"Send him twicet a day to shake, at my
shoulder till I wake,
An' tell me make a break for my clo'es.

"Then I sort o'groan yawn, groan yawn,
groan yawn,

An' I'll roll upon my back half a turn.

Then I'll remember pretty soon, recognize the
octoroon,

An jest tell that angel coon, 'you be durn.'

Then I'll hear him crawl away, crawl away,
crawl away,

An' he'll tell me as he goes, 'Don't you
stir.'

An' I'll snuzzle down—jes' so—where it's
sleepy warm below,

Jest a-murmurin' as I go, 'Thank you, sir.'"

N. H. C. v. ST. ANSELM'S

THE college foot-ball team went to
Manchester Thanksgiving day
and played St. Anselm's college of
that city.

The day was cold and sharp and
both teams had hard work to run
against the strong wind that was
blowing across the field.

The game was well played by both
teams, with the exception of a few
costly fumbles which were made at
critical times throughout the game.

The teams lined up in the centre of
the field. The ball was kicked off
by N. H. C., then St. Anselm's
passed it to the right half-back who
got around the end and secured a
touchdown in less than one minute
after play was called.

N. H. C. again kicked off and St.
Anselm's rushed the ball to N. H. C.
50-yard line when they again got
around the end and scored a touch-
down. Again N. H. C. kicked off
and secured the ball in the centre of
the field. Steady gains were made
by N. H. C. through the centre, and

at last the ball was passed to DeMerritte to punt, but on account of the strong wind he was unable to make a gain. At this point St. Anselm's secured the ball and made a touchdown. The ball was in the centre of the field when time was called. Score, St. Anselm's, 16; N. H. C., 0.

In the last half several changes were made in positions of the N. H. C. team on account of the injury received by DeMerritte, who was obliged to retire from the game.

During the last half two touchdowns were made by the St. Anselm's before N. H. C. could get control of the ball. At last the tide turned and N. H. C. secured the ball and made big gains through the centre, till it looked as though they would get a touchdown, but the ball was lost on a fumble and St. Anselm's took the ball nearly the length of the field and secured the last touchdown. When the teams again lined up time was called, leaving the score, St. Anselm's, 32; N. H. C., 0.

The line-up was as follows:

N. H. C.		ST. ANSELM'S.
Hunt, Sanborn,	l. e.	F. Connor
Russell	l. t.	M. Connor
Wiggin	l. g.	Halpin
Whittemore	c.	Linehan
Sanborn, Clark	r. g.	D. Connor
Young	r. t.	Belile
Forristall	r. e.	Callahan
McKenna	q. b.	Welsh
Trow }	h. b.	{ Hannon
Smith }		
DeMerritte	f. b.	Wefers

Umpire—Maurice Connor. Referee—Dwight Hall. Time—20 minutes.

The college catalogue is in the hands of the printers, and it is hoped to have them before the term closes.

COLLEGE NEWS

LESLIE D. HAYES '97 has been on the sick list.

Taft '98 has returned to college.

Freshmen began on their charcoal drawing at Thanksgiving time.

Rev. Mr. Fay of Dorchester, Mass., occupied the chapel pulpit, November 11.

Watson and J. Stevens of the class of '98 have left college.

J. T. McKenna '97 has given up the street lighting work to Malony '98, and is putting in his spare hours working for Mr. White.

There is a movement on foot to have a college orchestra, and with plenty of good material this plan should be carried through.

The college choir seems to be in a transitory state. At present it is composed entirely of male voices.

The Experiment Station chemists have been at work testing apples to find the values of different varieties for cider making.

A very unsatisfactory game of football was played with the Dover high school team on November 15 at Burgett park. The score was Dover high school 10; New Hampshire College 4. The game was played in a very lifeless manner; the result of an insufficient amount of practice during the preceding two weeks. Another serious trouble was the knowledge by the Dover team of our signals. The lesson has been a salutary one and there will be no repetition.

The regular meeting of the Culver Literary Society on November 23 was substituted by a lecture on the process of manufacture of sugar by Prof. Chas. L. Parsons. The lecture consisted of a thorough discussion of the beet, sorghum, and cane plants; and their relative capacities as sugar producers; the process of crushing as formerly conducted and the manner in which the syrup is now produced. Also the process of refining, as conducted in the large sugar refineries of this country. All the points of the lecture were illustrated by the electric lantern from slides prepared for the occasion. The evening being stormy the audience was small but all were very much interested.

Most of the meteorological instruments and all of the signal flags were destroyed when the barn was burned. But a larger and more complete assortment will soon take their place. A signal staff will be erected on the tower of Nesmith hall where the signals will be displayed. J. H. Foord '98, who rooms in the hall, will take the observations and have charge of the signals.

Mr. Louis C. Stanton has formed a class in harmony consisting of fifteen members, which meets every Wednesday. He also gives a number of private lessons each week.

The Ayrshire Breeders' Association has offered fifty dollars in premiums, to be awarded to herds of ten cows producing the largest average record for two consecutive days. The object

of the association is to encourage the testing of Ayrshire cows and to influence their selection for breeding for butter qualities. Arrangements have been made with experiment stations to perform the work in their several states where the competing heads may be located, and F. D. Fuller '92, assistant chemist of the Experiment Station, has recently tested two herds owned in Rollinsford.

On Tuesday, November 8, Prof. C. E. Stanton gave a lecture to the students on classical music. About a hundred students, professors, and townspeople spent a very pleasant evening in Thompson hall listening to his talk. The speaker explained some of the simpler principles of classic music, told why we did not like it at first, explained why the educated musician enjoys it, and gave illustrations of the various movements on the piano. These selections, especially the "Pilgrim's Chorus from Tannhauser," were given in a fine manner. The lecture was an interesting and instructive discussion of a subject which is generally misunderstood.

A material change is soon to be made in the reading room. After this the magazines will be placed in the reference room and there will be added "Poole's Index to Current Literature," which will be a great aid in the selection of articles to the student of limited time. Bound volumes of *Harper's Magazine* and *The Atlantic Monthly* have also been transferred to the reference room.

Field day, which was delayed, first, on account of the fire, and afterwards on account of frozen ground, has been postponed until next spring.

The students serenaded J. L. Caverno, ex-'95, and his bride, shortly after their wedding trip, and received a good treat for their trouble.

The Durham Congregational church has extended a call to Rev. Newton M. Hall of Manchester.

President Murkland has just got out a college bulletin on "Tuberculosis." The facts in regard to the cattle on the experiment station farm that have been killed and those that have been experimented on are discussed.

Mr. W. A. Dudley of Marlborough, Mass., was here last month visiting his son, Dudley '98.

Mr. R. S. Alden '85 has been appointed farm superintendent and commenced work November 1. He has been in charge of the Insane Asylum farm at Concord for a number of years, and well understands the work in the position that he occupies.

Professor Weed was recently called to Lansing, Michigan, by the death of his father.

Mr. Charles K. Fletcher, representing the firm of Fletcher & Co. of Boston, was in town a few days at the bookstore of Barney and Kittredge.

Mr. E. E. Russell lately made a visit to Athol, Mass., and returned with a very pleasant lady whom we are glad to greet as Mrs. Russell.

Professor Whitcher is having a high service water system placed on the knoll just back and above his new houses. It is connected with all his houses.

Mr. A. A. Brigham of Marlborough, Mass., was in town the first of last month. Mr. Brigham is the past master of the Massachusetts state grange and has lately been president of an agricultural college in Japan.

President Murkland spent a week in Washington, D. C., as a member of the Association of Agricultural Colleges and Experiment Stations of the United States.

The open meeting of the Culver Literary Society brought out a large number of students. A very interesting programme was carried out and the committee in charge deserve much credit for the manner in which the entertainment was conducted. After the programme all were invited to remain for a social time.

The Q. T. V. fraternity gave a reception in Grange hall the first of last month, at which many of the faculty and a large number of invited students were present. The hall was quite transformed in appearance and the evening made very pleasant, first by a sumptuous feast and afterwards by a programme consisting of solos rendered by Mrs. Murkland and able speeches by members and faculty representatives. Much interest was created by the announcement that a Fraternity hall would be erected during the coming year.

A double quartette has been formed with D. B. Bartlett and E. R. Shaw, first tenor; J. P. Maloney and Chamberlin, second tenor; W. F. Russell and H. F. Moore, first bass; J. L. Dennett and F. C. Britton, second bass.

While skating on the mill-pond the first of the season, Miss Mabel Bunker broke through the ice and received a severe wetting. J. N. Hunt, who was near by, prevented a more serious termination to the affair.

New Hampshire College was very well represented at the Dover opera house to hear Denman Thompson in the "Old Homestead." In spite of the weather and the mud about fifty from Durham succeeded in seeing the play and felt fully rewarded for their exertions.

A very pleasant reception was tendered the members of the foot-ball team Thursday evening, November 22, by the lady students. Refreshments were served and during the evening Miss Young entertained the company by select readings. Miss Lizzie Chesley by a piano solo, and Misses Chamberlin and Mary Bartlett sang a duet.

One of the pleasant gatherings during the last month was a reception given by Professor and Mrs. Scott to the upper class men, the students in the literary class, and to members of the faculty. The evening passed very pleasantly in conversation and with music and games. Lieutenant Hodges secured the rooster which

was offered as a prize to the person telling correctly the names of the authors of a number of quotations. The committee sent by the grange to visit the college were present.

Some little excitement was caused by the disappearance of a fence erected by the Boston & Maine railroad in front of the college shop. Some reports printed in the daily papers were quite misleading and uncalled for. The fence in question has been removed to a better position, running to the building instead of in front of it.

December 5 the students who have military drill were measured for their uniforms. It is expected that they will be ready by the commencement of next term. The Sawyer's mills of Dover are to furnish the cloth which is to be cadet gray.

On the evening of November 16 the Christian Endeavor society of the town gave a poverty party, which was attended by both students and townspeople. Very few fines were collected either for white shirts and collars or for dresses, which only excluded calico. Some of the costumes displayed an ingenuity of talent which would be hard to equal at a more elaborate affair. A short programme was carried out and received much applause. After the refreshments of gingerbread and apples the judges rendered their decision. Mr. Daniel Smith, '97 received the first prize and Mrs. Griffith of Packer's Falls received the second prize for costumes best representing poverty.

That dreaded event—the freshman examination in algebra—came on the twenty-eighth of November. The manner in which this examination is respected and revered by the new classes is worthy of imitation by those who are farther along.

We notice a number of careworn men looking for a suitable building lot. With plenty of land we hope that they may be successful in locating a society hall.

The physics class now has two lectures and one quiz each week, doing away with examinations with the exception of those who will have to take finals.

The young women of the college have organized a secret society which will be in full running order by the commencement of the winter term.

Dr. Lamson gave a very able address before the grange November 26 upon the subject of "Tuberculosis."

EXCHANGE DEPARTMENT

THE *Monthly* has used very little space in speaking of her many acceptable exchanges. It is hard to criticise any other publication and there would be little use in attempting it, for all seem to be doing good work, and working hard to keep up with the times and not run the financial part of the paper into bankruptcy.

Perhaps the first paper to attract our attention by the new cover and change of size, is the *Pratt Institute*

Monthly, which as ever before maintains a high standard of taste. The special numbers are well adapted to bringing out the subject, under review and show that its editors are thoroughly progressive.

Among other illustrated exchanges the recent numbers of the *Cadet*, the Maine state college paper, show the greatest improvement. Its editors take a very commendable interest in the college work and in the reception of the freshman class. Articles on interesting topics are found in each number and it is evident that the paper is receiving some good outside contributions.

Smith College Monthly is a very welcome addition to the exchange department and shows the way in which the young ladies of that institution conduct a fine paper.

The *W. P. I.* devoted its pages, in one of its recent numbers, to the interest of the college foot-ball team and a review of the season.

Aggie Life comes with pleasing regularity and is always devoted to the interest of the college, and although it has few literary articles the selections are very good.

From away out in Colorado comes the *Rocky Mountain Collegian* and reminds us that even in that far away state college papers grow and flourish.

The Industrialist is one of the best weekly college papers we have yet seen and is well up with the times; short and to-the-point articles characterize it.

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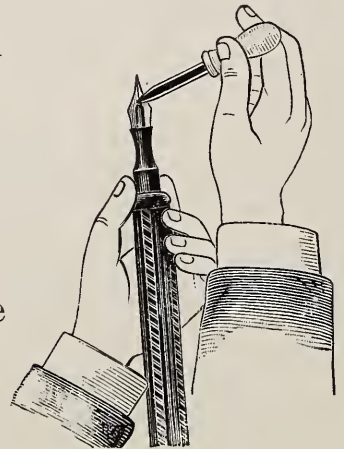
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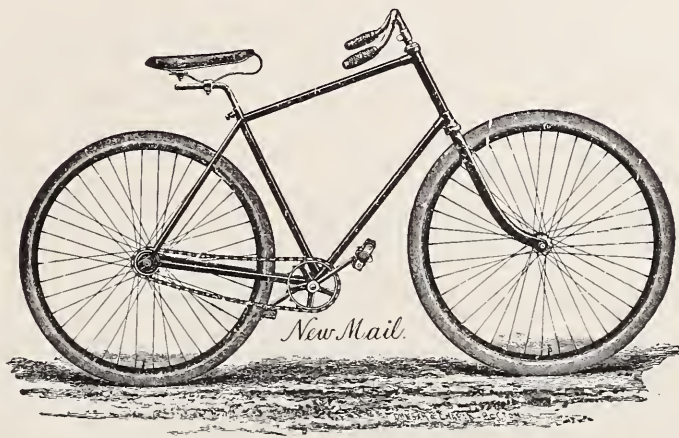
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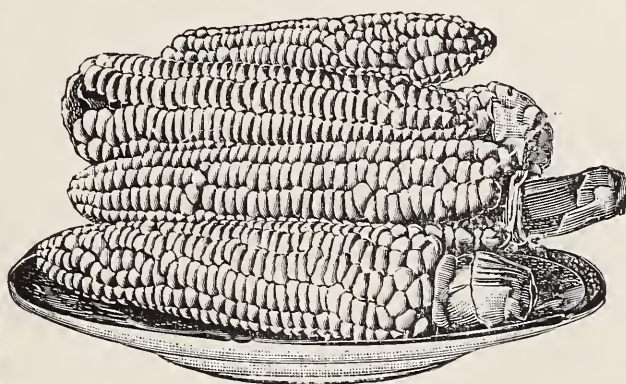
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COLLEGE BULLETIN.

Q. T. V.

Fraternity meetings, Saturday evenings.

Culver Literary Society.

7:30 p. m.

Friday, January 4; Friday, January 18; Friday, February 1.

J. L. T. Shaw, *Pres.*

Rena Young, *Sec'y.*

Chapel Exercises.

Week-days at 12:07 p. m.

Sundays at 5:07 p. m.

Military Drill.

Monday, Tuesday, Wednesday, Friday, and Saturday, at 7:30 a. m.

Y. M. C. A.

Meetings every Tuesday evening in Thompson Hall at 7:30.

Library Hours.

Saturday, 1:30 to 5:00 p. m.;
other days, 4:00 to 5:00 p. m.
Reference room, 9:00 a. m. to 12:00
m.; 1:30 to 5:00 p. m. Reading
room, 9:00 a. m. to 6:00 p. m.

Boston & Maine R. R. Western Division.

Trains leave Durham for

South and West

5:57 a. m.

8:51

10:41

5:26 p. m.

North and East.

9:59 a. m.

2:58 p. m.

5:51

7:23

SUNDAYS.

6:44 a. m.

2:56 p. m.

6:13

8:25 p. m.

THE
. . . . NEW
HAMPSHIRE
COLLEGE
MONTHLY .

FEBRUARY

1895

VOL. 2

NO. 5

THE NEW HAMPSHIRE COLLEGE MONTHLY.

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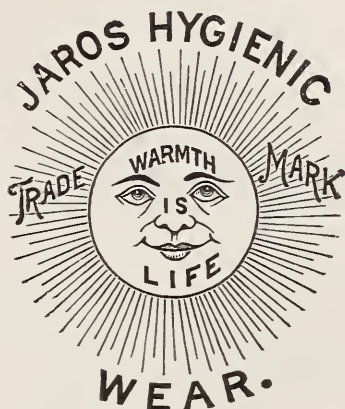
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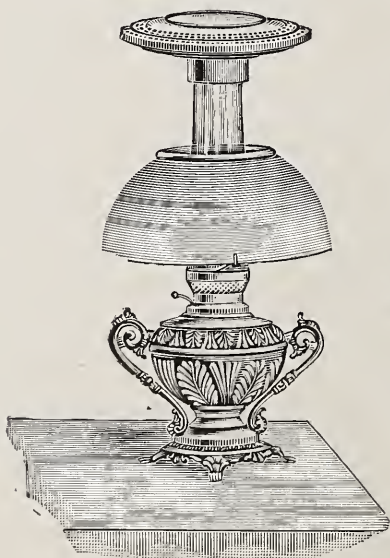
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Is varied and complete, and a full line can always be found in Dinner Sets, Toilet Ware, and everything which belongs to a complete stock in this line of goods.

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THE
NEW HAMPSHIRE COLLEGE
MONTHLY

VOL. 2

JANUARY, 1895

NO. 5

THE COLLEGE OUTLOOK

A MEMBER of the senior class was lately told that Greek and Latin were taught in this college and this person was very much surprised when he found he was mistaken. For the benefit of those who are not thoroughly acquainted with the college we would like to state that these two dead languages are not taught here.

* * *

Another thing that is not rightly understood is in regard to the funds which were left by the late Benjamin Thompson. The college is not receiving an income from the Thompson estate and cannot until the year 1910.

* * *

A third statement which is made and believed, is that the income from the Conant fund is not used to help the agricultural students. From personal knowledge we know this to be incor-

rect and wish to state that the scholarships into which this fund is divided are given only to students taking the agricultural courses. We hope those who are interested in the welfare of the college will do all they can to prevent such erroneous statements as these from gaining ground.

* * *

The new catalogue made its appearance during vacation, and presents itself in the old form with various additions. The increased number of students is a good showing for the work being done. The whole arrangement has been much improved. A new cut of the buildings has been added and a new feature is the commencement address delivered last June. The catalogue was printed by the Republican Press Association of Concord, and is in very neat form. A catalogue will be sent prepaid on application to the president.

One of the best things for the college in its new home is to have a large number of people interested in it. Interested to the extent that they will at least come and see what is being done. The brightest thing in the future, perhaps, is the satisfaction that all visitors show, both in the buildings and in the work. It is with pleasure that we greeted both branches of the state legislature at the commencement of the winter term. The state has a college for its people to send their children to, where they learn practical lessons for life's work, and we are sure our legislators carried away good impressions of the work being done.

*

* *

Great strides have been taken within a few years in establishing libraries throughout the state. People are seeing the advantages of having good public libraries and there are few towns where there are not plenty of books. We are glad to say the college library is being built up of good, substantial, practical, and educative books, and the only drawback is that we do not have more of these really necessary volumes. There are many books which ought to be added at once, and we sincerely hope that the state of New Hampshire will see that its own college has a library that it will be proud of and one that will be appreciated by every student.

*

* *

The second institute course will begin February 4. The course will

be much like the one held here last year, but more attention will be devoted to dairy work. Those who attended the course last year were well repaid for their time and money, and it was thought by them that a much larger number would have attended had they known of its value. One of the very best things, the most practical, the most instructive, for persons having a limited amount of time is such a course as this. There are no examinations, no dry textbooks, but the very essence of a subject presented in a clear and forcible way by men who know thoroughly their subjects. Such a course would be a good thing to carry through a whole college year, and in no way could a farmer get more out of this department of the college than by attending and sending his children to it.

*

* *

Major Henry E. Alvord has been elected professor of agriculture and took his new position the last of January. Professor Alvord comes from Maryland where he was president of the Maryland Agricultural College. He is well known in New England, having some years ago occupied the chair of agriculture at the Massachusetts Agricultural College. Professor Alvord is one of the most eminent of American agricultural scientists, having been president of the American Society for the Promotion of Agricultural Science and vice-president of the American Association for the Advancement of Science.

GETTING AN EDUCATION

IN THREE PARTS.

PART I.

For the benefit of people who know but little of what it means for a girl, surrounded by uneducated people, to obtain an education, I am going to write this little story. I will begin with a conversation which will, I think, give a better idea of the surroundings of this particular girl, than by almost any other means.

"It's no use in your thinking that you can have everything you want to wear, Emily, just because you're going off to school; you've got your new serge dress and a nice new flannel wrapper, and I say them's enough; and as for hats,—why, your last year's hat is a plenty good enough, and that sack your Aunt Jane gave you winter before last is good enough to go anywhere, I say."

"Well, mother, you know I haven't any good gloves, and there's lots of other things I need very much indeed, I have only those gray woolen gloves that you bought me last winter, and you know that the school I am going to is n't like our district schools here; they say the girls dress very well there, and I think if Uncle James is going to to pay all my school bills, you and father ought to be willing to buy me some new clothes."

"Why, Emily Jane Thurlow! I am surprised at you—to think that you've got it into your head that just because you're a going off to school you've got to dress up for it. Now you know as well as I do that you've always had as good

clothes as any girl ever raised in Cartersville. You know clothes don't amount to nothing at all, Emily. Now I do hope you won't say any more about new clothes, for yours are well enough. Come now, can't you help me with this ironing? There's plenty of flatirons, and you can have the ironing table and I'll take the kitchen table if you'll help me. I'm afraid, Emily, your getting to be too awful bookish. What kind of a woman do you expect you'll make? You'd be a fine hand to keep house, wouldn't you! What would John Emery say if he could see you now standing there and looking at this little bit of ironing?"

At the mention of this name, John Emery, Emily suddenly turned towards the stove, and, taking one of the irons, went to work without speaking. John Emery was a wealthy farmer's son, who had been attentive to Emily for some time. Her parents were highly pleased at his attentions because he was called a good fellow and his parents were wealthy; but Emily was not very much "taken up" with him and disliked to hear her mother speak of him in this way. Her mother noticed this dislike and said, "Well, you're old enough to know what's what, and I'm sure a better fellow is n't in this town, than John Emery. Remember, Emily, that these mighty fine looking little city chaps that you'll meet off to school ain't always just what they seem to be and John is a good young man,—

he's strickly temperate and a very nice fellow, too."

"Mother, I know it is imposible for us to agree on this question, and I only wish you to remember that I do not aspire to being anyone's housekeeper, at present. In fact I'm not particular if I ever am."

"Well, I'm surprised at you, Emily, I declare I am: the fact is, you've been allowed to read and study too much,—till your ideas of human beings are too powerful high-toned for us folks here in Cartersville. I don't know as 'tis best to let you go off to school: I'm afraid the more you study and go round with these tony kind of folks the more you'll be getting to hate housework; and when a girl of your age gets so as to hate work they've got to quite a pass; for you don't know what kind of hands you'll fall in yet and it's best to know how to work and be able to live economically. Come now, you're ironing dreadful slow; I should think you'd be a hurrying up so as to have time to change your dress and comb your hair before supper; you know John may drop in any time now to see you; he knows you're thinking of going away. Come, hurry up and then go and put on your new calico dress and do your hair up in a nice sleek pug, not in that loose sort of a style that you learned of that silly Miss Ordway, who taught down in the other district; I detest it, and I know John must, for he is a fellow of good taste, even if he has always

lived here in Cartersville. These city fellows that's all style aint to be compared to John, he's got more good common sense than a whole town of them kind, and you ought to know it, too."

The fact was just this: Emily had a large amount of beautiful black hair, which had always been combed in the most simple manner. Miss Ordway had once done it up for her and since then she had often worn it the same way—which was really very becoming to her. While Emily was gone to "dress up" a heavy knock was heard at the door, and Mrs. Thurlow, on going to open it, found John waiting with an uncommonly wide grin on his expressionless face. He came in, took a seat and asked for Emily. It was not long before she came down with her hair combed back straight and wound into a tight coil at the back of her head. She had on a new blue and white print dress which John noticed, remarking, "Why, doesn't she look nice! though I suppose it won't be long before she will be dressed up all the time." At this remark Emily smiled simply because she did not know whether he meant when she became Mrs. Emery or when she went away to school.

John soon remarked in a very free and easy way that there was to be, the next evening in the hall, a lecture, given by a man from Boston who would talk on "*Money, and how to make it*," and that he would like to know if Emily would go with

him. "Now," Emily thought, "is my chance;" so she said, "No, I cannot go." Such a look of blank unutterable surprise came over poor John's face that Mrs. Thurlow began with, "Well now, Emily, you just stop and think what you're a saying, will you? I say if you don't go to that lecture with John you'll wish you had. I'll see about your going away to school! You won't go any more than I shall, if you keep on at this rate. John, she *shall* go, if I'm the boss of this house, and I think I am, that is you know I mean—" Mr. Thurlow was just coming in and chanced to hear the latter part of the sentence; and he walked in, saying that in the twenty years he had lived in this house he had found it to be the exact truth. Mrs. Thurlow began telling the cause of the remark and Mr. Thurlow only laughed, saying he guessed Emily knew what was what. Then John jumped up, took his hat, and made a move towards the door. "Oh, I mean—ahem—I guess she'll think it over and decide to go,—at least I hope so, I'll talk with her, I'll lay the law right down good to her and if she don't go with you she shan't go with anybody,—that's certain sure, John!"

"Yes, yes, but you know I called this evening to tell her—well, never mind,—I'll be in again to-morrow evening."

Emily had gone out of the room at the beginning of this conversation and as soon as she heard the outer door close she returned to the kitch-

en where her father was all prepared with a speech too lengthy for repetition but beginning somewhat in this manner: "Now, Emily, what's this you've been a doing, a going and snubbing John Emery is it? Well, that may be all right according to your new-fangled notions, but I don't believe in no such ways as them. Now you stop and think of it. Ain't it a poor way of doing to keep on a flirting with John and appearing to think a sight of him when you declare all along that you will never marry him? Now, of course, you'll marry him; why there ain't another girl in this whole town who would think of refusing him. I'd just like to know why you're so set against him, it must be some kind of bookish sentiment that you've got into your head that is doing all this."

"Well, father, in the first place I do n't like him very well; I never did, only when he began coming to see me, you and mother thought that just because he was Captain Emery's son, I must learn to like him; but likes and dislikes are not acquired by a gradual gain, you either like a person naturally or else not at all. I've seen enough of the world to know that."

"Well, I never! I did n't suppose you were so awful sentimental, I find it's no sort of use to argue the thing with you, but remember, I'm afraid you'll see the time when you'll wish you'd married John Emery."

Emily was wise enough to go to her own room now, for she knew her mother would be the next to talk

with her. After she had gone out of the kitchen her parents talked the matter over and spoke of how nice it would be to have her settled right here so near home and married to such a fine man as John was.

(Continued in March number.)

NEW YEAR

Eighteen hundred and ninety-four,
Dead and buried! like all before;
All thy joy and sorrow and sin
Written and sealed and handed in.

Oh, for the young year, glad and bright,
Springing up in the dead of night,
Speeding far by the morning light
With burden of happy greeting;
Over the land and over the sea,
Quick with a shout comes he,
Bringing a wealth of joy and glee
To every merry meeting.

Opening pages white and fair,
Ready for pictures rich and rare,
Drawn and colored with tender care,
To brighten the lives around.
Sunshine touches for shadowy ways,
Smiles to scatter their golden rays—
Loving words—into cloudy days,
Bringing a cheering sound.

Eighteen hundred and ninty-five,
A brighter life to all alive!
A better record for all the way
Let us begin this New Year's day.

EDNA B. SNELL.

REPORT OF FOOTBALL MANAGER

AT the last annual meeting of the New Hampshire College Athletic Association Mr. Shattuck was elected foot-ball manager. When it was found that Mr. Shattuck would not return another manager was elected, but not until sometime after college opened, and no preparation had been made for the season. This handicap as well as the lack of time for practice, the poor condition of the campus in wet weather, the lack of nearly

unanimous support of the students, and unfortunate accidents, crippled the team from the first.

Five games were played (with which all are familiar) and two, one with McGaw Institute and one with Andover second eleven, were cancelled. The former was cancelled by the McGaw manager and the latter by me on account of the bad weather and condition of the team.

Money was received by me and spent, with the consent of the directors, as follows:

RECEIVED:

At game Oct. 6.....	\$8.70
Guarantee for game with Bates.....	50.00
Expenses of fifteen men for a game with Dover team.....	5.40
At game Nov. 21.....	7.95
For old foot-ball.....	1.75
On subscriptions and from treasurer ¹ ...	96.00
Guarantee for game with St. Anselms College.....	60.00
	<u>\$229.80</u>

PAID:

Guarantee for game Oct. 6.....	\$5.00
Expenses for game with Bates.....	66.91
" " " " Dover team....	6.35
Expenses of game with St. Anselms Col- lege.....	38.21
Horace Partridge & Co. for suits, etc...	74.25
Instruction for team.....	18.00
Miscellaneous expenses.....	22.40
	<u>\$231.12</u>

BILLS DUE:

Balance due manager.....	\$1.32
Balance on bill for suits, etc.....	2.50
Barge for Dover team Nov. 21.....	3.50
Expenses for training-table, work, and miscellaneous expenses.....	19.48
Total.....	<u>\$26.80</u>

¹Subscriptions were partly collected by the treasurer and partly by me.

A tax has been assessed upon the members of the Athletic Association for the payment of the outstanding bills.
L. H. KITTREDGE.

DANIEL WEBSTER'S FIRST SPEECH

NEAR the centre of the little village of Salisbury, N. H., stands a small building two stories high, painted white. The flag-staff on the roof, the foot-worn steps, and the general squareness of its outlines tell us at once that it is the village school. The building possesses no special feature to distinguish it from hundreds of other country schools, yet, if local tradition is true, it is a historic spot, for here it was that Daniel Webster made his first speech.

When young Webster was eleven or twelve years old, he was sent to this village school or "academy" as it was then called. In accordance with the New England custom which has existed from time immemorial, and which apparently will exist for some time to come, every scholar was required to "speak a piece" once or twice a term. Of course, Daniel must take his turn.

At last the day arrived on which the future "great expounder of the constitution" was for the first time to address an audience. We can all easily imagine the scene. Twenty or thirty boys and girls are seated at their desks, some attentive, some careless, some mischievous. The principal calls the list of speakers. One speaks mechanically, another worries through his "piece" with many helps from his prompter, a few really put some life and feeling into their declarations. At last the teacher calls, "Daniel Webster." We may be sure that this scholar has studied his piece, and knowing

his future history, as we do, we may expect something fine. But we are disappointed. Poor Dan sits in his seat, white and trembling, utterly paralyzed by stage fright. Yes, the boy, who in later years defended New England in the grandest oration ever delivered in the United States senate, made an utter failure of his first attempt to speak in public.

But he didn't give up. Battling with his diffidence all through his course at Phillips Exeter Academy, he at least so far conquered it that at the age of nineteen, while a Dartmouth student, he won no small credit as the fourth of July orator at Hanover. We all know the rest: how he became lawyer, representative, senator, secretary of state, ever pushing onward till he placed his name among those of the foremost orators and statesmen of America. The whole life of Daniel Webster is the story of one who, undaunted by early failures and obstacles, pushed on until success was won.

H. F. MOORE '98.

THE TENTH GENERAL MEETING OF THE AMERICAN CHEMICAL SOCIETY

THE winter meeting of the American Chemical Society for 1894 was held at Boston, Wednesday and Thursday, December 27 and 28. It is the largest chemical society in America and one of the largest in the world, having nearly one thousand members. The meeting was not so well attended as the summer meeting at Brooklyn or as the winter meeting of the previous year at Bal-

timore. This, however, can readily be accounted for because of the more central location of the two previous meeting places.

The first session was held at the Walker Building, Massachusetts Institute of Technology, Wednesday forenoon. President Wiley, chief chemist of the United States department of agriculture, presided. The reports of the officers and committees showed the society to be in a prosperous condition. Among other interesting and instructive papers which were read, after the business had been disposed of, was one upon the rare metal, tellurium. An ingot of the metal, weighing nearly seventeen ounces, was exhibited. This is the largest mass of that metal ever produced and would be many hundred times as valuable as gold had it even a small fraction of that metal's utility. The piece is seven inches in length, one and one half inches in width, and about one half inch in thickness, and has a market value of \$256, although the metal has absolutely no utility save as a curiosity.

Dinner was served to the society at the Union Station, after which two parties were to have been formed, one to visit the filter station of the Lawrence water works and the experiment station of the state board of health, the other was to go to the Boston Rubber Shoe Company's works at Malden. On account of the rain no attempt was made to visit Lawrence, so many availed themselves of the opportunity to wit-

ness the growth of rubber shoes from their many ingredients.

On account of the unfavorable condition of the weather, no evening session was held. But Friday forenoon the society met at Boylston hall, Harvard University, where the remaining papers were read. Professor E. W. Morley of Cleveland then gave an interesting talk upon his work in connection with the atomic weight of oxygen. The session was then closed with the address of the retiring president, Mr. H. W. Wiley, upon "The Synthetic Food of the Future." Dinner was then served at the Colonial Club, after which some of the Harvard laboratories and museums were visited. A seat at dinner next to Professor Morley gave an opportunity to hear an account of the methods and devices, obstacles, trials, and mishaps of an original investigator in the depths of scientific research. That years of labor should be spent in investigating whether or not we have the right atomic weight of oxygen, only illustrates how much hard work has been expended in attaining our present knowledge of the sciences. Yet we are liable to think that we are burdened by simply memorizing these facts which have been so laboriously worked out; they have become so numerous and seem so common, of course reasoning backward as we do they may sometimes seem almost self evident. Quite different it is, however, with the one who first works out these facts for it is not only frequently necessary to invent, but also

to manufacture, much of the apparatus used.

The New Hampshire College was represented at the meeting by Prof. C. L. Parsons, Prof. F. W. Morse, Mr. F. W. Howe '94, and L. H. Kittredge.

L. H. KITTREDGE '96.

THE NEW MILITARY SUIT

It is rather odd when you think in what manner a clothing firm can bring so much pride. Such was the case when the firm of B. F. Haley & Co. brought to Thompson Hall on Saturday last the new military suits. The pride was not displayed, however, until the suit adorned the proud owner. How strange it is, that a simple piece of cloth will awaken such feelings in a boy. Perhaps it is not the cloth alone, but the trimmings which distinguish the suit from an ordinary civilian suit. How much straighter and more erect the boys stand, a difference that could be noticed in the drill room during our first exercise. It was particularly noticeable during several cold days when a number of the boys who had been accustomed to wear overcoats discarded them, either out of pride or fondness of display. Of course the newness of the cloth may help to keep out the cold, but that circumstance alone will not wholly suffice.

The new suits bring with them a number of advantages, among which may be mentioned, the saving of shirts. For as the coat is supposed to be kept buttoned up in front, the wearer's shirt does not need launder-

ing so often. Again, while one is wearing the military suit, he is not obliged to wear any other, and he is saving in that way. Another advantage is, that in buying so many suits at one time, you get better cloth at a lower price, and have an economical suit for a proud wearer.

H. C. MATHES '98.

CULVER LITERARY SOCIETY

The meeting of the Culver Literary society, held the 25th of January, was the best meeting of the college year thus far. The programme was carried out well; the business was conducted in a parliamentary way. The debate on the question: "Resolved, That the manufacture of liquor was doing more injury to the cause of temperance than the consumer," was conducted in an able manner, and showed that a great deal of time and work had been devoted to the subject.

ALUMNI NOTES

'86—Edward H. Wason is holding a number of important offices in this state. He has been re-elected to the solicitorship, chosen clerk of the state senate, and president of the board of education in his own city of Nashua.

'88—William N. Hazen read a paper before the Boston Society of Civil Engineers and we clip the following from the *Engineering News*:

The feature of the meeting was the reading and discussion of a paper by Mr. Allen Hazen, of the Massachusetts State Board of Health, on "European Water Supplies." Mr. Hazen

recently returned from Europe where he visited many of the water-supply works of the large cities and examined them in detail.

'91—Edward P. Stone is the chemist at a large plantation sugar refinery in Southdown Plantation, Houma, Louisiana.

'94—Fred W. Gunn spent his vacation in Durham.

'94—Frederick W. Howe has secured a position as chemist with Whiting & Co., Boston, Mass.

COLLEGE ITEMS

HENRY E. HILL is assistant clerk in the New Hampshire Senate.

Edward H. Hancock '96 attended the congress of the *A T O* in Washington, D. C., during the vacation.

The whistle of a steam sawmill in Trustee DeMeritt's woods is a new sound this term.

The Durham brass band, accompanied by a large number of students, recently went to Lee to serenade Mr. Wilber DeMeritt. The party had a four horse team, and the evening being very fine they made the most of it.

A. C. Durgin '98 has been on the sick list, and H. R. Blodgett was obliged to keep his room for a few days.

Taft '98 is college mail carrier this term.

J. L. T. Shaw '97 has been elected foot-ball manager for next year, in the place of L. H. Kittridge who resigned.

Misses Elizabeth and Lucy Chesley '98 have not been with us this term.

A. H. Davis '97 is working for Caverno & Son.

W. C. Dudley is college reporter for the Boston *Globe*.

Some of the students went to Dover one Friday night to see the "County Squire," but there was no show.

C. A. Trow and H. E. Hill '95 took a trip to Cambridge the first of the term.

A large number of students went to Dover to see the play, "In Old Kentucky."

The scientific society has elected new officers; Professor Kingsbury, president, Professor Parsons, secretary-treasurer.

Miss Abby F. Chamberlin spent part of her vacation in Hanover.

Since the catalogue was published a number of names have been added to the non-resident course.

Bulletin No. 25 of the experimental station has just been issued, entitled, "Some dangerous fruit insects." It was prepared by Professor Weed. A new and attractive design has been adopted for the title page.

A college orchestra has been formed with W. F. Russell, 1st violin; H. L. Howe, 2d violin; Professor Whitcher, 1st cornet; G. H. Chamberlin, 1st clarinet; H. F.

Moore, flute; Mr. Thomas Schoonmaker, 1st trombone; D. B. Bartlett, 2d trombone; F. W. Smith, bass violin.

The following class officers were chosen by '98 class: H. M. Chamberlain, president; Miss Rena Young, vice-president; H. F. Moore, secretary; W. C. Dudley, treasurer.

A semi-public meeting of the Grange was held in Grange Hall, for the installation of officers. A supper was served, and the evening was a very pleasant one.

All were pleased to be remembered by Mrs. Murkland, with short New Year's letters.

The first Culver Literary meeting of the term was held January 18, when an interesting programme was carried out, and a debate on the following question: *Resolved*, That educational advantages are better in proportion to the needs of the people than they were fifty years ago.

A meeting of the students interested in base-ball was held in the mathematical room. It was decided to ask Lieutenant Hodges to give a special course of instruction for members trying for the team.

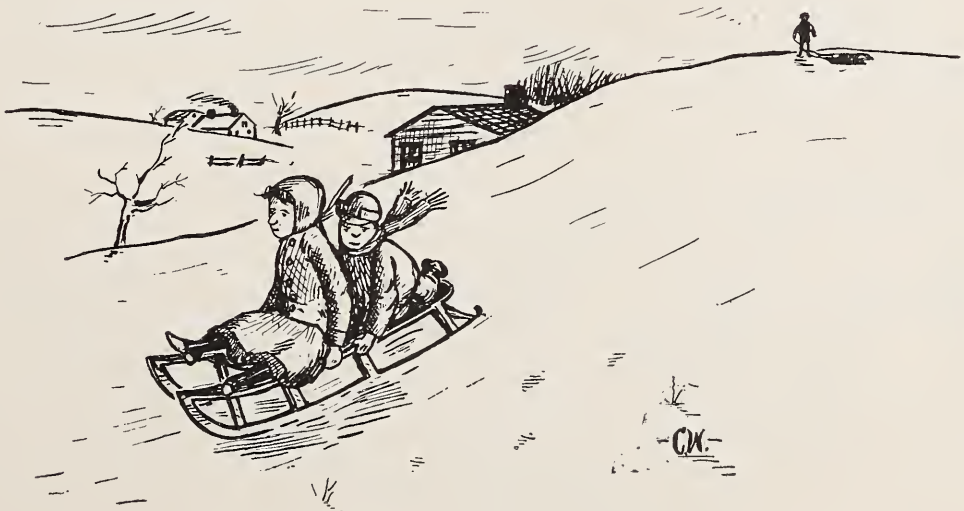
A new pair of farm horses are taking the place of those brought from Hanover three years ago.

The death of Mrs. Foy during vacation, has caused the giving up of the boarding club that has been carried on by her daughter, Mrs. Brown, during her mother's sickness.

Professor Parsons has returned from his vacation visit at his father's home, in Georgia.

The Durham Christian Endeavor society have out some new topic cards which show a number of students' names as officers and members of that society.

T. S. Wiggin '97 is occupying the bell-room with F. R. Chase '98, this term.



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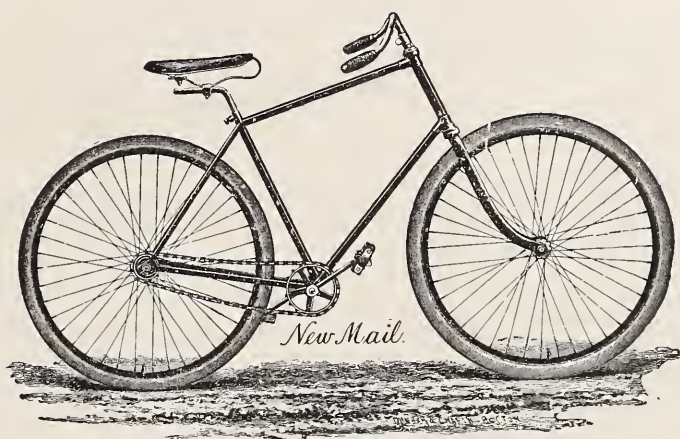
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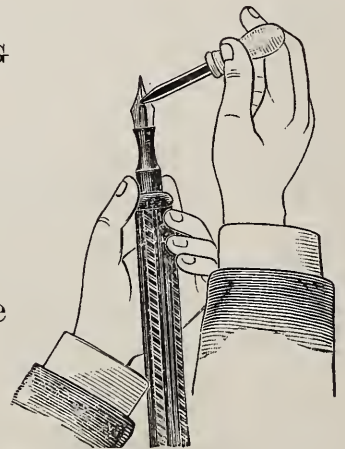
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7:30 p. m.

Regular meetings every Friday evening.

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Rena Young, *Sec'y.*

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SUNDAYS.

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2:56 p. m.	8:25 p. m.
6:13	

THE
NEW
HAMPSHIRE
COLLEGE
MONTHLY .

MARCH

1895

VOL. 2

NO. 6

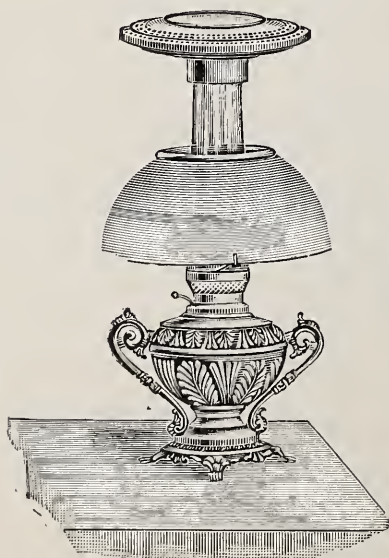
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THE
NEW HAMPSHIRE COLLEGE
MONTHLY

VOL. 2

MARCH, 1895

NO. 6

THE COLLEGE OUTLOOK

THE increasing value of our Culver Literary Society is a noticeable and pleasing feature. In the meetings where debates are held a good number of members have been present. The hopeful feature is the willingness of members to speak from the floor. The importance of thus speaking, for the majority of students, cannot be overestimated. The ability to speak at short notice in a manner expressing conviction, in most cases, can only be acquired. In what better place can this be done than in our own literary society? The board of directors are doing good service in presenting interesting programs and live and important subjects for debates. The extemporaneous speeches are valuable and as a rule instructive. One thing which was strongly impressed upon our minds at the last meeting is the importance of members, who are on the program and are unable to be

present, furnishing substitutes. Of course they may say,—“ We pay our fine, what more can you want?” But to us it seems unwise and unconstructive to lose for the sake of a few cents any literary enjoyment. The critic who serves for one evening only, holds a very important office, for to him is given the power to criticise right and left. If this power is used judiciously much good can be gained. The primary thing to remember in a college literary society is the help it is expected to give in after life.

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The winter term in college is very apt to keep students at their books, if any part of the year will do so. It is the time to study and any student who puts off work then, will never find time when he can make it up. In most cases the only real trouble will be found in the lack of exercise

necessary to keep the mind clear and active. We have no good gymnasium in which this can be done, but those who will take the pains to procure a pair of Indian clubs, and be prompt on the four afternoons when Lieutenant Hodges gives directions, will find that they will be much better for it physically, and that recitation marks will correspondingly advance.

*

* *

At first thought it would seem that when uniforms were secured, and each cadet was clothed with cadet gray, shining buttons, and N. H. C. Cadet glitterings on his handsome uniform, there would be nothing to dim their beauty that could not be removed with a little physical exertion. This is a very mistaken illusion. It is not the uniform that makes the cadet, but the man that is inside of it. In order that a uniform should be respected, coveted, and aspired to, it must represent a body of men of good character, an honor to the college, and having the confidence of the people who see it and know its *esprit du corps*. A few men in uniform may, by ungentlemanly conduct, by being found in low company, or any other acts, so disgrace the whole company that instead of the high ideal, which the badge of a uniform represents, will bring the company into a state of distrust so that instead of being proud to wear the uniform, the men whom we would like to see represent it, (when

they visit neighboring towns) will prefer to go in citizens' clothes. Hardly a case of this kind has happened, but, members of the New Hampshire Cadets, do nothing to dishonor your uniforms.

*

* *

It was with a deep sense of sorrow that we heard of the death of Ex-Governor Benjamin F. Prescott. He was a man of great worth to the community in which he lived, and for many years he had been before the people of New Hampshire, proving himself a man worthy of the highest honor they could give him, and filling all positions of trust in a manner that will always be an example to the young men of this state. He was particularly interested in educational advancement, and by earnest work infused into others the same spirit. He was, at the time of his death, president of the board of trustees of this College, as well as a trustee of Dartmouth. In respect to his memory the exercises of the College were closed on hearing of his death.

GETTING AN EDUCATION

PART II.

EMILY passed a perfectly sleepless night, thinking of what her mother had said about her going to school; she realized that the threat was likely to be executed. The girl was naturally very intelligent, and possessed some tastes which were greatly out of accord with her surroundings; she had as a special gift a good knowledge of human nature, although her

chance for practical observation had been small. She was sensitive, and the rough taunt which her father flung out about her appearing to care for John, had set her to thinking whether she had really ever given him any reason to think she liked him at all. She could not bear the thought of having her people, much more him, go on thinking she cared for him. This thought troubled her more than the fear of losing her chance to go away to school, and it troubled her so much all the next day that the arrival of evening found her with an uncommonly troubled countenance.

At seven o'clock John came; Emily, in a few words, told him that she had not changed her mind in regard to going to the lecture, and John went away. Emily received a brief lecture after his departure on the subject of "Too Much Book-Learning." It began in this way:

"Now, Emily, you have n't been studying those books so long for nothing; you've got your head chock full of nonsense: you've got so that common folks ain't half good enough for you, and I say you're not going off to school any more; you'll stay right here and help your mother do the work 'till you begin to learn a little something,—a little good old-fashioned common sense,—then perhaps you will get tired of this old kitchen and be wanting to go off to a new one where everything's fine."

Emily knew full well that this was an allusion to the new house John had so many times referred to.

Then her mother continued: "Well, I've talked and reasoned and reasoned and talked with her, but I see she's got too much of that confounded idea of sentiment and all that sort of thing into her head. Now what would become of her if she were to go off to school? she'd be bringing some little city chap home to live on us,—he might be a Jew or a Catholic, it would n't matter to her. I say it troubles me to have her getting so regardless of such things as religion. I heard her say only the other day that it made no difference what religion a person professed so long as they were true to whatever religion they had been brought up to. I say it *is* dreadful for me, who was brought up as a Baptist, to think of it. Well, Emily, I hope you'll remember what I have said to you, and think of it when you're out of my sight, that is, if you should happen to go away."

Emily dared not mention going away to school till one day when her uncle James came over and asked about it. Then he received from her mother a lengthy account of her refusal to attend the lecture with John. He only laughed and said he guessed Emily knew her business, and that it was his opinion that if that young Emery fellow was n't just who he was,—Captain Emery's son,—he would n't be called quite so smart as some other young men, and he thought they'd better let Emily go away and study.

This uncle of Emily's had seen more of the world than her parents

had, and he was determined that she should be sent away to school, because he knew that she was too intelligent and gifted to remain in such a place, surrounded by people who almost abhorred books which taught anything except arithmetic, geography, and a little grammar.

The day before the opening of the school to which Emily's uncle wished to send her he came over to be sure that she was going. In a short time she was ready, and soon started away with him, her mother having declared that she could not go alone. The parting scene was ludicrous and yet pathetic, for her parents looked on this journey as a great undertaking, and the advice which was so lavishly given was in reality quite unnecessary. When the last good-bye had been said her mother returned to the house, where she had stood to watch the team as it disappeared from sight, and went up stairs to Emily's room where she gave herself up to weeping. When her husband came in he said it seemed as if there had been a death in the house. Mrs. Thurlow declared it was worse than a funeral, and another hour spent in solid weeping was the result of this remark.

Shortly after dinner John came over on an errand, and said he saw Emily riding past with her uncle and he supposed she would be awful glad to get out in the world where people had more civilized ways than they had in Cartersville. Then Mrs. Thurlow began to weep once more, and said, "Yes, John; I don't know who it

is she inherits so much aristocracy from unless it's her father's folks. You see her uncle James is just the same; but, anyway, I've got a clear conscience, John. I tried as hard as I know how to get her to stay here, but I tell you what it is: I've been thinking that Miss Ordway had a dreadful bad influence on Emily. Why, she used to come here and bring a lot of books—most of them was poetry—and those two would sit and talk over the people mentioned in the books. I overheard them one day talking about something they had been reading and I heard Miss Ordway say, 'I am afraid I never should understand Hamlet.' I walked right in and says, 'Who is this Mr. Hamlet?' they both kind of smiled and said he was one of the characters in a very famous work by Shakespeare. I said, 'Now, Emily, you just quit such books. Don't you know that people surrounded by a mystery ain't never quite right?' and heard Miss Ordway say she could n't understand him. Pretty quick I asked her to come out and wash the kitchen floor. Then of course Miss Ordway cleared out and I really thought I had put a stop to such confounded nonsense; but in less than a week she came again and I heard them talking about Ophelia. I knew more than to ask who he was,—I supposed it must be some man, although the name sounds as if it might be either. Well, bye and bye I heard them say, 'Poor Ophelia,' and pretty soon they went to reading out loud about a man who as near as I could under-

stand was standing in a grave-yard and picking up the skulls as another man took them from the graves, and he said the craziest sounding things about the different ones. I stood it just as long as I could; then I walked in as cool as a cucumber and with my head way up in the air and I says, 'Miss Ordway, you're always welcome to come to my house, but not when you bring such books as that—let me see that book!' and I can tell you it was a pretty book, all gilt edged and the paper was as smooth as satin. Well, I began to read and I happened to open to the place where it said, 'How shall I your true love know? From another one? By his cockle hat and staff and his sandal shoon.' I suppose you'll think it funny that I should remember those lines but I tell you they were burned into my brain the instant I read them. I says to Miss Ordway, 'Now remember the next book of this sort that is brought into this house will be burnt.'"

"Please say them lines again, Mrs. Thurlow; they sound kind of pretty, after all, but there is n't much sense in them. Cockle hat; what can that mean? It must be a new style I have n't heard of; guess when I go over to Bangor next time I will enquire, and maybe that'll give us some light on the meaning of the rest of the verse. I always knew that poetry was n't dreadful good for young girls to read, but I wouldn't 'a thought Emily would have read such a book—no, I cer-

tainly wouldn't; but then, it only shows that you can't always tell what sort of literature a person will read if they get the chance."

The conversation continued in much this way for some time, till John finally went home. The next day but one Mrs. Thurlow received a letter from Emily telling all about the school, her boarding-place, and what studies she was taking. Her father, after reading the letter, dolefully announced to his wife that "Emily's education was n't of the right kind, that was plain enough."

Continued in April number.

NEW HAMPSHIRE'S NIAGARA

IN the first issue of this magazine for this student year there appeared a very interesting article on the great electric plant now being installed at Niagara Falls. It may not be known to many of the students here that a plant, similar in character, though much less extensive, exists in New Hampshire.

Sewall's Falls is—or rather was—a series of rapids in the Merrimack river, about three miles north of the city of Concord. The river, about one hundred and fifty yards at this point, falls some thirty or forty feet in half a mile. The Concord & Montreal railroad extends along the east bank of the river; the Boston & Maine along the west. It will be seen at once that this place presents many inducements to the mill builder. Several attempts have been made to establish manufactories at the falls,

but the schemes all failed, till, a few years ago, a project was set on foot to furnish light and power to our capital city from a central station, which should derive its power from Sewall's Falls.

The plan grew in favor, and a company was formed to carry it out.

Owing to hard times the work went on slowly, but it went on nevertheless, and today, though the plant is not complete, yet Concord is supplied with light and power from generators at Sewall's Falls.

The water of the Merrimack is turned into the wheel pits by an immense dam about four hundred and fifty feet long, by twenty-five or thirty feet high. The abutments of this structure are of stone, while the dam itself is composed of wooden crates loaded with granite. This dam backs up the water of the river for about half a mile and, it is claimed, will furnish five thousand horse power on the driest day in summer. A canal about two hundred yards long and about fifty feet wide by fifteen deep leads the water to the power house.

The power house itself is a brick building, one story high and one hundred and fifty feet long. It is not a handsome building, but it is built for business. It is on the west bank of the river, and a siding from the Boston & Maine railroad extends up to it. No stove or furnace is used to heat the building; the heat given off by the many dynamos and wires has been found sufficient. The turbines are five in number, furnishing about

a thousand horse power each. They are placed horizontally and belted to countershafts in the dynamo room. The counter shafts are belted directly to the large dynamos, which run at a very moderate speed.

The most interesting part of the plant is, of course, the generators. It is planned to have four large three-phase machines when the plant is finished; at present two are running. They deliver current at 2,400 volts pressure and, as may easily be calculated, have an output of about 300 amperes. These machines look very much like ordinary alternators, except for the fact that they have three collecting rings instead of two. Each of the two dynamos has a small Edison direct current machine attached, to excite its fields. The multiphase machines were built by the General Electric company.

As a person watches one of these huge machines in motion he cannot but be impressed by the wonderful degree of accuracy to which mechanical and electrical sciences have attained. Smoothly, with no noise but a low hum, with no sparking or other outward manifestation of electrical energy, the armatures whirl on, yet from their brushes there is delivered sufficient power to light hundreds of electric lamps or run scores of electric motors.

In sharp contrast to these machines are the noisy, sparking arc light machines, of which there are six or seven in the station. These dynamos are of the well-known Thomson - Houston pattern, with

spherical armature. They furnish power for the street lights in the central portion of the city.

At the time of the writer's last visit the switch board had not been put in place. A rough board frame with plugs connected by flexible wires served for the arc currents. A Weston direct-current voltmeter was used on this circuit. The wires from the three-phase generators extended under the floor to the south-east wall, where they left the building. The only instrument on this circuit was a Whitney voltmeter connected to a transformer. Since that time three voltmeters have been made for the Sewall's Falls plant which read directly to 3,000 volts alternating. These were made by the Whitney Electrical Instrument company, of Penacook, N. H., and are in themselves no small achievement, as a magnetic indicator to read to 3,000 volts is a difficult instrument to manufacture.

The wires come out at the south-east side of the building, and extend to a huge standard, shaped like a foot-ball goal post. They span the river to another similar standard. These posts are strong and firmly braced, for the weight of a span of thirteen or fourteen wires five hundred feet long is no small matter. A line of posts extends down the east bank of the river to the city.

With such a supply of force Concord is becoming a distinctively electrical city. Electric lights are taking the place of gas lights in most stores and public buildings, and elec-

tric motors are in use running fans, printing presses, and in one or two cases entire machine shops. These motors, of the three-phase type, apparently run as well as direct current machines. One house, I think, is electrically heated, and the heat for the cooking department of the Concord High school is furnished by electric ovens, teakettles, and other electrically heated utensils. The beautiful state library is a masterpiece of electric wiring. The building is finished inside with marble, so the difficulty of insulation is reduced to minimum, and the combinations of lights which can be operated by the various switches is most ingenious.

New Hampshire is a small state and some people think it "slow," but in the Sewall's Falls plant it has a system of electrical power transmission which is up to date in every particular.

RECENT CHEMICAL ACHIEVEMENTS

ON account of the many wonders wrought through the aid of chemistry, which although comparatively so young a science has already attained such breadth and importance, many are led to think the achievements in this branch much greater than they really are. That this has come about seems but natural when we remember that some chemists even predict that it is a question of but a short time when our food shall cease to be the product of the soil, but shall instead come from the laboratory of the chemist. That

such opinions are not held by the most able and practical chemists, and especially agricultural chemists, seems hardly necessary to state. Wonderful results in the artificial production of compounds, which Nature alone was supposed to be capable of producing, have surely been attained.

Some such artificial products have already driven from the market the natural ones. Madder has been replaced by the artificial product made from coal-tar known as Turkey red. Indigo is now manufactured artificially, and it only remains to cheapen the process when the natural will be forced out by the artificial product. This is equally true of many other valuable commercial commodities. Substances known as alkaloids, of which quinine and morphine are examples, have not yet been built up, but many coal tar products are constantly coming into use in medicine, and to a certain extent taking the place of some of these. Many of the sugars have been produced artificially, and some of the flavoring extracts are manufactured in considerable quantities by artificial means.

Chemical and mechanical ingenuity have combined to produce artificial silk, which is pronounced a success both in quality of product and cheapness of manufacture. The machine by which this is affected looks much like the ordinary spinning frame. This frame carries a large number of artificial silkworms, arranged in a horizontal row, into which is allowed

to run a solution of nitro-cellulose, prepared for the purpose. As the fine fibre issues from the worm it is run through glass guides and over a rod of the same material, where several of these fibres are united and spun into a thread. Although the machine is fed with a thick liquid, the threads as they are wound on the bobbins are almost dry. The artificial fibre under the microscope shows the two small parallel cylinders which has always been characteristic of the real silk.

Animal and vegetable substances are not the only productions of Nature which have been successfully imitated by artifice. Diamonds have been manufactured by melting silver or wrought iron together with carbon, and allowing to cool very slowly. These crystals were too small to have any value, being only barely large enough to be seen with the naked eye, yet they were as truly diamonds as the natural bits of crystalized carbon known by that name; and there seems to be no reason why larger crystals cannot be obtained in the same way. It is not difficult to find out what different stones are composed of and then to combine the elements in proper proportions; it then remains for us only to study the conditions of their production in nature and imitate these conditions. As we gain better and better command of Nature's forces it is not unreasonable to expect to attain greater success in imitating their action.

Rubies are now made artificially,

which are just as beautiful as the natural ones, and since they are of exactly the same composition, it can hardly be said that they are not genuine rubies. They can be distinguished from the natural ones only by aid of the microscope. Within a few months beryls have been produced artificially and emeralds are only small green beryls.

Moonstones have not as yet been produced by the chemist, but stones have been made which are exactly similar to them in every way, except that they lack the peculiar optical properties due to the internal crystalline structure, which perhaps may in time be successfully imitated.

L. H. KITREDGE, '96.

THE FIRST N. H. DAIRY SCHOOL

ONE of the new things at the College this year is the organization of a Dairy School, the first attempt at anything of this kind in the state. The general plan is similar to that successfully followed in Vermont, Wisconsin, and several other states. The course began the 4th of February, and is to continue a month. The class attending is small, as was to be expected this first year, but the students, who are mostly young men with some experience in creamery work, are earnest, interested, and seem to feel that they are using their time to advantage.

The instruction at this school combines the theoretical with the practical. The class works in the creamery daily until noon, performing all

the operations incident to the business, under the guidance of competent instructors. Several different patterns of cream separators, hand and power, have been procured, with other improved dairy and creamery appliances, and these are tested and compared in the most thorough manner. The very latest methods of testing milk, skim milk, cream and buttermilk, are carefully taught, and the way of applying them in searching for and preventing the frequent and serious losses in ordinary dairy and creamery practice. The creamery is using between 600 and 700 pounds of milk daily, and turning out something over thirty pounds of butter; this seems to be sufficient for purposes of instruction and illustration of the various processes.

In the afternoon lectures are given on the history and progress of dairying, and the application of science to its improvement. Also upon closely related subjects, such as the breeds and breeding of dairy cattle, their accidents and ailments, care and management, feeds and feeding, the growing of forage crops, and the economic use of fertilizers. There are also lessons upon elementary mechanics, and the management, adjustments, and ordinary repairs of the steam engine and creamery shafting and machinery.

The practical operations of the creamery are under the immediate guidance of Hon. W. D. Baker, assisted by Mr. R. S. Alden. The testing and laboratory work is under

Professor Morse. Lectures are given by Professors Kingsbury, Lamson, and Morse of the college faculty. The general management is in the hands of Major Alvord, professor of agriculture, and he also lectures daily. Several lecturers from a distance have been engaged to take part in the course. Dr. John F. Winchester, of Lawrence, Mass., gives instruction upon the ordinary accidents and ailments of dairy stock, and Professor W. H. Caldwell, late of the Pennsylvania State college, and now residing at Peterboro, N. H., upon the different breeds of dairy cattle.

President Murkland and the college trustees are showing special interest in this Dairy School and authorizing considerable expenditures for assistance and appliances, that the instruction may be as thorough and practical as possible.

THE GERMS OF TUBERCULOSIS IN MILK

The question of tuberculosis in cattle has been occupying the attention of several of the New England states this winter to an unusual degree. The question derives its importance, not alone from the money loss to the cattle industry, which is considerable, but largely from the danger which is believed to exist of the disease being communicated from cattle to man. The disease has been found to be practically the same in man and animals.

It is said that one seventh of the deaths in the human race are due to tuberculosis; it will therefore be

readily understood that any knowledge which will enable us to deal more intelligently with this terrible disease is of the highest value.

The flesh and milk of cattle furnishes a large proportion of our food supply. If flesh and milk from cattle affected with tuberculosis is used, it is believed with good reason that there is danger of acquiring the disease. The danger lies in the fact that these substances may contain the *tubercle bacillus* which is the microbe or germ which produces the disease. How great the danger is it is impossible to state definitely with our present knowledge.

The danger from meat is probably not so great as from milk, as the former is, in cooking, usually subjected to a sufficient degree of heat to kill the germs, while the latter is mostly used in its natural condition. Where the udder of the cow is affected with the disease, it is highly probable that the milk will at some time contain tubercle bacilli, and, therefore, be unquestionably dangerous to use as food. The results of experiment in the past, lead us to believe that bacilli occur in the milk of tuberculous cows, even when the udder is not affected, and therefore that all milk from such a source is to be looked on with suspicion. Before the question of the degree of danger can be settled, much further knowledge is needed.

At the New Hampshire Experiment Station, we have five cows which have been pronounced to be tuberculous, and we are trying to find wheth-

er the germs of the disease are contained in their milk.

There are two methods of ascertaining this; one is by direct, microscopic examination of the milk, and the other is by feeding, or inoculating, healthy animals with it.

In making use of the first method, the milk is collected in such a way as to exclude as far as possible germs from outside; it is then spread on thin slips of glass, dried and stained with one of the aniline dyes to render the germs more readily visible. It is then examined with a high power of the microscope. This method comes very near being the proverbial search for a "needle in a haystack," the number of germs, if they are present at all, being usually small in comparison to the quantity of milk to be examined. Greater reliance is therefore placed on the second method, viz.: feeding, or inoculating animals with the milk.

By this method, larger quantities of milk can be used, and the work is not so tedious. Calves or pigs may be fed with the milk with the idea that if it contains the germs, the disease may be developed in the animal fed. Our chief resource, however, is to inoculate guinea pigs, or rabbits, with the milk in such a way that the germs, if present, will find the most favorable conditions for development; these animals being especially susceptible to tuberculosis, the presence, or absence, of the disease is determined after a certain length of time by a careful post-mortem examination of the animal.

Thus far, the result of our experiments has been negative, no germs having been detected microscopically, or by the inoculation of guinea pigs.

H. H. L.

LONDON BRIDGE

"I stood on the bridge at midnight,
As the clocks were striking the hour,
And the moon rose o'er the city,
Behind the dark church tower."

Longfellow.

THIS simple but descriptive verse of Longfellow's nearly always recalls to my mind a thought of London Bridge, that famous bridge of the "world's metropolis." I remember crossing it at night, a few years ago, when the moon was giving her silvery touch to the muddy waters of the river. All that was necessary to make a parallel to the idea of the poet was the striking of the clocks, and with the dome of St. Paul's cathedral looming up above the city, a little to the north-west, that part was easily imagined.

Looking down the river, the dark hulls of ocean steamships could be distinguished lying at their wharves, mostly on the north bank; on the south side of the river a field of barges and lighters lay moored together, some loaded with coal for outgoing steamers, no doubt, and others with merchandise for those gloomy-looking warehouses on the banks, whose shadows reach far out on the river. Turning and looking up the river, some of the other bridges, with a constant stream of lights moving across them, could be seen; and still the clumps of barges

and lighters waiting for daylight, to continue either their voyage up or down the river, or the work of loading or unloading.

The first bridge across the Thames at this point, and in fact, at any point, was what is known in history as "Old London Bridge." It was built during the reign of King John (1199-1216), the signer of the Magna Charta. The peculiarity of this bridge was, that on each side of the roadway houses and stores were built, many of them two or three stories high, though of course the stories of that time were very low compared to those of the present. This old bridge sufficed for the needs of the people for several centuries, but later it was replaced by a more substantial structure, and this second bridge was the only one connecting London with the southern bank of the river until the opening of Westminster Bridge in 1750.

Nearly seventy years passed after this before the elder John Rennie, who built Waterloo Bridge in 1813-'14, was called upon to replace London Bridge which was not substantial enough to stand the strain of the constantly increasing traffic. The death of John Rennie in 1821 prevented the execution of his plans and designs which were already made; but his sons, John and George Rennie, continued their father's work, and in 1831 the present London Bridge was opened for traffic with great pomp and ceremony, by King William, and John Rennie, the builder, was knighted.

The bridge is solid, almost massive in appearance; it is built entirely of stone, most of it granite, and is just as strong to-day as it was when opened in 1831. It was until recently the first bridge seen, ascending the river from its mouth, but in July, 1894, the new Tower Bridge was opened, which, however, being a draw-bridge, does not prevent large ships from going up the river as far as London Bridge, as they did before.
J. A. F. '98.

EXCHANGES

It is really surprising to find, on looking over our exchanges, how wide a territory they cover. We receive papers from colleges all the way from Maine to Nevada. A great many of the states have accepted the generous offer of the government, and every month we hear news from nine or ten of these "Colleges of Agriculture and the Mechanic Arts." The exchanges from such colleges are always especially interesting, as they tell us of the doings in other institutions very similar to our own. Often we can get many "points" which we may hold with advantage to ourselves.

Over the line, in Maine, the *Cadet* is, as usual, the bright representative of the Maine State College. The last number contains a very amusing article on "Boarding-House Pie." An illustrated article on the United States Patent Office is also contained in this number.

Out in Nevada they want a drill hall for the college cadets, so the

Student Review of the Nevada State College tells us. We hope that they will get one, and that we shall, too, and that before long.

Coming back to the East again, we find *Aggie Life*, from the Massachusetts Agricultural College, on our exchange table, as usual. At that institution they propose to give the college athletes some distinctive mark by the following resolution passed at a mass meeting of students: "Voted, That the college disapprove of any student wearing the letters M. A. C. on his sweater, jersey, or cap unless he has played on some athletic team or taken first prize in an athletic event." Such an action has, apparently, some good features and some bad ones, and the outcome of it will be watched with interest. This issue also has an article, interesting to our "soldier-boys," on some new field pieces recently received by the M. A. C.

We are glad to receive the *Cadets' Review* from the Maryland Agricultural College. We notice that the students there have a rifle club.

Pratt Institute Monthly sends us its fine art number this month. A noticeable feature is a fine engraving of a Greek relief representing a classical group.

The *W. P. I.* contains as usual many interesting technical articles. One of the noticeable features of this paper is a college directory.

The *Industrialist* is a regular weekly visitor from the Kansas Agricultural College. We notice that the Kansas people are having a course of Farm-

ers' Institutes much like our own Institute Course in Agriculture.

From the Colorado Agricultural College comes the *Rocky Mountain Collegian*. Their paper this month is a very spicy one. An article on behavior in the college library might be perused with advantage by some of our students who frequent the reading-room. Another article is a sharp hit at the "special courses." Judging from the number of locals, everybody out there lets the editors know what is going on. Let the N. H. C. students do likewise.

The *New Mexico Collegian* gives a very interesting account of the growth of the New Mexico Agricultural College.

The *Delaware College Review* contains an ably written article on the danger of giving too much importance to athletics.

We are glad to receive the *Reveille*, as usual, from Norwich University.

The *Gray Jacket* of the Virginia Agricultural and Mechanical College describes very feelingly the trials of a college editor. The difficulty of obtaining articles for the paper is portrayed in a way that brings sympathetic tears to our eyes. If this were the "Sermon Department" instead of the "Exchange Department," we should do a little preaching to the young men and women of the N. H. C. about writing for the college paper.

Smith College Monthly maintains its high standard. A thoughtful article on the recent strikes is especially well worth reading.

The *Wooster Voice* gives a stirring account of the dedication of the foot-ball tablet given to the champion class team of the college.

We acknowledge the receipt of papers from many academies and high schools. All present an attractive appearance, and are interesting as to reading matter.

COLLEGE NEWS

A mistake crept into the alumni notes of the February number. Instead of William N. Hazen '88, the name should have been, Mr. Allen Hazen '85.

A pamphlet of the graduates of the Thayer School of Civil Engineering contains the names of eleven of the former students of the New Hampshire College, all but one of them having graduated.

A college yell committee was appointed last term. Where is it?

Rev. G. E. Hall, of Dover, addressed the students on Sunday, February 10.

H. F. Moore '98 recently received a visit from his father.

The German class has the distinction of containing one or more students from every class in college.

On February 17, Mr. Swift gave a very interesting talk, in chapel, on Japan, especially showing the work done by the Y. M. C. A., in that country.

The Athletic Association elected J. Norton Hunt '97 as foot ball manager for the next year.

A new upright piano has been purchased for the chapel. This is a great improvement over anything we have had before. The instrument is finished in oak, and was manufactured by the McPhail Company of Boston.

P. A. Young '97 has left college, has taken charge of a farm, in Newmarket, and is running a milk route on his own account.

A rage for open fireplaces has taken possession of students occupying rooms not heated by steam.

The Culver Literary Society have revised their constitution and by-laws, and now have them printed in neat book form.

The rifles and other equipments were received the first of February, and gun drill has continued twice a week since that time.

The flag staff has been erected on the tower of Nesmith Hall, and Foord '98 has charge of the weather signal flags which are displayed from it.

The Young Woman's Missionary Society gave a sociable in the vestry February 21. This society has several active members among the lady students of the college.

Professor Louis C. Stanton, of Newton, is giving a course of recitals on music, every Tuesday evening, at the several homes of the professors.

The freshman class seem to be doing a large amount of class business this term. They have averaged to hold a class meeting four times a week since this term opened.

The young women of the sophomore class are taking a course in water colors, under Mr. James Hall, the instructor in drawing.

A short time ago a committee was appointed by the students to select designs for a college pin. The committee at once offered a prize of two dollars to any student who would design a pin that would be accepted by the student body. As yet only a few designs have been received.

By vote of the faculty, the Saturday after Washington's birthday was made a holiday. This enabled many of the students to enjoy a brief vacation.

Some of the base-ball men have begun their spring exercise by running around the mile square every morning.

Members of the sophomore class who studied perspective drawing under Professor Kingsbury, took a final examination in that study February 19.

The freshmen drawing class are showing great improvement. They have done some very neat and artistic work, and any one visiting the college will be well repaid to inspect the work of the students during the past term.

We find the weather maps in the reading-room a great convenience.

The Military Hop, given by the N. H. C. Cadets, took place Wednesday evening, February 13, in Grange Hall. Owing to the fact that this was postponed from the original date many were unable to be pres-

ent; but as it was, the hall contained as many as could comfortably dance, and the faculty were well represented. The order was made up of seventeen numbers, evenly divided between plain and fancy dances. For the benefit of those who did not dance there were two marches. The hall was tastefully draped with flags, which added much to the attractiveness of the scene. Lemonade was served in the ante-room by a corps of skilled lemon squeezers. Music was furnished by the Independent Orchestra of Dover. The party broke up shortly before one a. m. Every one reported a very enjoyable time, and we are pleased to add that the affair was a financial success. It is to be hoped that another will be given before long.

Friday evening, February 15, will be among the pleasant memories of the fourteen cadets who attended the Military Ball given by the Sawyer Rifles at Dover. Captain Goldschmidt very kindly invited the students of the New Hampshire College to be present at the ball in uniform, and sent complimentary tickets to all who wished to attend. Lieutenant H. C. Hodges received a special invitation and accompanied the students.

The first part of the evening was occupied with the reception of the invited guests by the governor, and a concert by the orchestra. The grand march was led by Captain Goldschmidt, followed by the governor, staff officers, and other guests. Immediately afterwards a long but well-selected order of dances was

begun, and at the first intermission supper was served in the banquet hall. Excellent lemonade, in two large punch bowls placed in front of the stage, was enjoyed throughout the evening.

The galleries, which had been filled during the early hours, presented many vacant seats after the first intermission, but the number of dancers did not diminish appreciably to the end.

Every courtesy was extended by the officers of the company to the members of the college who attended, and every care was taken that all should enjoy the evening.

Miss Bernice Caverno received a long visit from Miss Martin of South Boston, Mass.

We have been much pleased to welcome the numerous delegations from the legislature, who come to inspect the work done in the different branches of the college. The delegation of representatives who came February 8 were not frightened by the storm, but came and looked over all the buildings thoroughly.

Mr. George Hodgdon, of Newmarket, has been spending a few days with his cousin, Harry Mathes '98.

Monday evening, February 11, the Durham band gave a masquerade ball in Grange hall. The number in attendance was rather small, and comparatively few students were present. No person was admitted to the hall without a mask, and this, together with the fact that nearly all were in costume, presented a unique

feature. Many of the costumes were quite original. All who went report a very enjoyable evening.

W. F. Buck '97 recently spent a week at his home in Manchester.

A number of the young men practice swinging the Indian clubs. Lieutenant Hodges has charge of the instruction.

Miss Mary Bartlett '97 recently received a visit from her father.

The college choir is really quite saintly. It consists of the following ancient titles: St. Patrick, Elijah, Samuel, David, St. George, Jonah, and Frederick (not the great), the organist.

Miss E. A. Bartlett, who is teaching in Conway, Mass., lately spent several days with her sister, Miss Mary Bartlett '97.

What's the matter with the freshmen? It is fine sleighing.

The De Merritt Hall boys may not be "hewers of wood" but until the water works "thaw out," they will be "drawers of water."

E. H. Hancock '96 went home for a visit the first of the month.

D. B. Bartlett '97 spent a few days at home, in Manchester, while troubled with a severe sore throat.

A new system of keeping records for the creamery and the barn has been adopted, by which an account of food fed, quality of milk, skimming record, and churning record will be known at any time, and it will also show the efficiency of the cattle and of the creamery.

VISITING REPRESENTATIVES

On February 15, the last and largest delegation of representatives came down to visit the New Hampshire College. They arrived at 10:30, on the express, and divided into two companies and proceeded to look the college buildings over. At chapel time they gathered in Thompson Hall, and after filling the stage, the front seats were occupied three deep. During the forenoon the museum was cleared of its holdings, and tables were erected from lumber which was in the mill yard in the morning. A large number of students were on hand to wait on the tables, and while dinner was being prepared the representatives amused themselves in ways which are only known to legislative and college men. At the invitation of President Murkland all took seats and the chaplain of the house asked a blessing. This was followed by an onslaught on the eatables which showed that all were hungry. After the inner man was satisfied speeches were in order and it was very gratifying to all interested in the college, to see and know that our legislators are interested in the college and are willing to give it their hearty support. The delegation broke up at 3 p. m. Part returning to Concord by way of Dover and Alton Bay, while about thirty remained until the 5:26 train, and attended the setting up drill of the 1st squad.



A TROUBLESOME FRESHMAN

He's a genuine good fellow
In every way but one;
Is this jolly little freshman,
And always full of fun.
And I really thought him guileless,
Until I discovered all;
He is the fiend who tortures,
The fiddle in the hall.

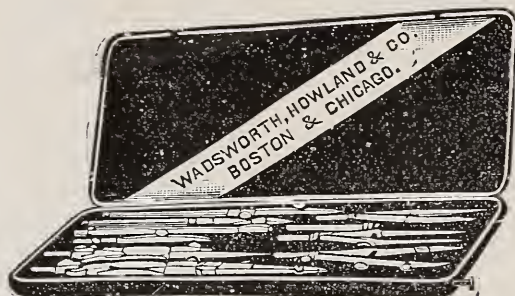
He scrapes it in the evening,
He scrapes it in the morn,
He's in each heart the cause of oaths;
He's in each side a thorn.
There are many tunes he favors,
But they are threadbare all,
But still he keeps on scraping
That fiddle in the hall.

When he gets up in the morning,
He at once begins to play,
And his energy increases,
As he scrapes away the day;
Till the students all, by evening,
Are wondering at his gall,
And they wish to use for kindling
That fiddle in the hall.

They now talk of holding meetings,
Just to petition Prex,
For a rule both just and stringent,
That will make the scraping cease;
That would make it ground for "firing,"
They'd enforce it, one, and all,
For any one to harbor
A fiddle in the hall.

X. Z.

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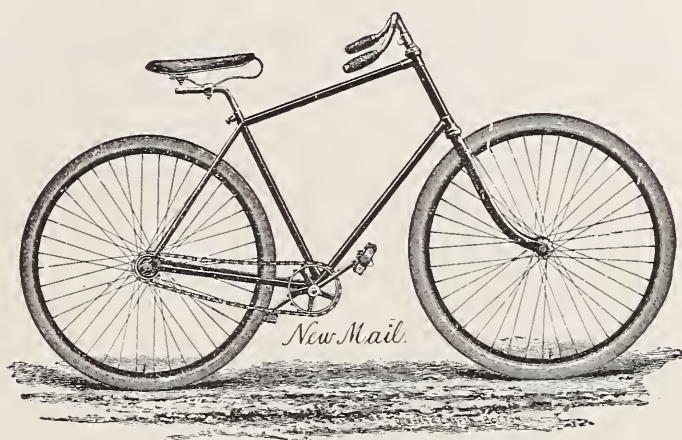
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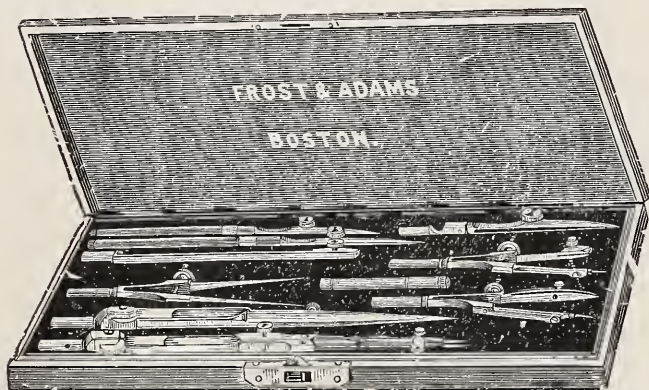
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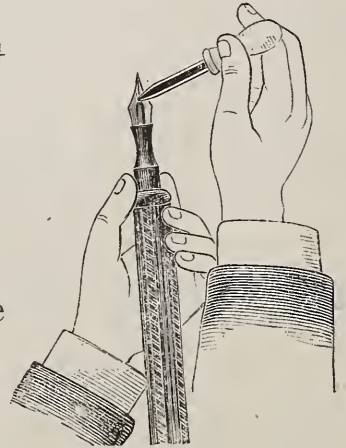
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Culver Literary Society.

7:30 p. m.

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Miss Edna B. Snell, *Sec'y.*

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Sundays at 5:07 p. m.

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10:41

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7:23

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6:44 a. m.

2:56 p. m.

6:13

8:25 p. m.

THE
NEW
HAMPSHIRE
COLLEGE
MONTHLY.

APRIL

1895

VOL. 2

NO. 7

THE NEW HAMPSHIRE COLLEGE MONTHLY.

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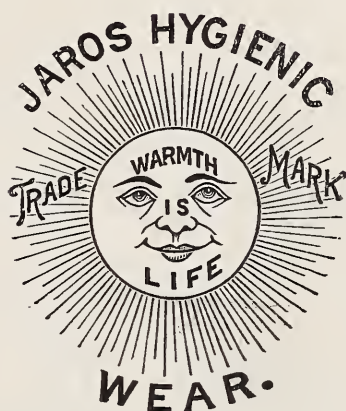
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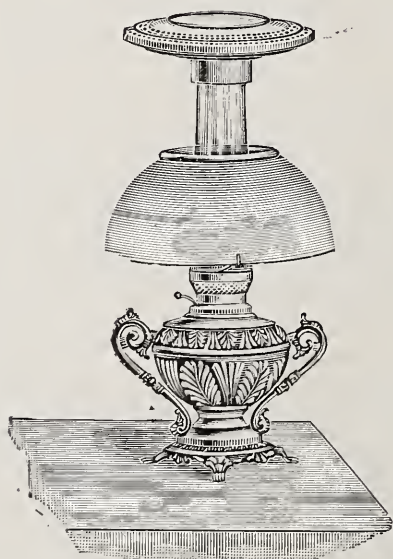
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THE
NEW HAMPSHIRE COLLEGE
MONTHLY

VOL. 2

APRIL, 1895

NO. 7

THE COLLEGE OUTLOOK

LAST fall there was quite an awakening in our athletic interests, but it came so late that the cold weather put a sudden stop to it. Since then nothing has been done, and if we expect to do anything this spring, we must be making some different arrangements. The few attempts that have been made in the past to establish athletics have been marked by the work of a few individual students; a few cannot do the work of all, and unless the hearty support of the student body is given, athletics will be a total failure.

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The opening of another college season brings out in strong relief, the need of more college spirit. One of the greatest questions to be treated with due candor, is that of individual independence. College life is supposed to develop the spirit

of self reliance, to prepare the man for active life in the world, and to make him a leader among men. All these things go to make up the independence which should be found in the college man. But like all other things it can be abused. As a result we sometimes see in various colleges the defiance of laws by students—the rough spirit of indifference to other comforts. Occasionally students will band themselves together to protect one who has wronged the whole college body, rather than to unite for the development of that which is best. Like children in a grammar school, college students sometimes have the idea that they are one feature of the college and the teacher another in which the interest of both are in different directions. Perhaps this early training is where we have got our notions as to a chasm existing between faculty and students, but this is no

reason for clinging to such ideas when "we become men and put away childish things."

*
* *

As long as man continues to be a social being he has got to unite with others under some set of laws which will make the whole body a unit in carrying out the wishes of the majority. Individual independence is to play its part in furthering, in its minutest detail, the wishes of the body, and when one member can, by any action, cause the loss of enjoyment which the student body as a whole deserves, he should be, in a determined way, given to understand that the student body will allow no liberties taken with what belongs to them to enjoy.

*
* *

The loyalty we have towards our college is a combination of the respect we have for the educational value, and the amount of work we have done to encourage a spirit of fellowship, by a union of interests in athletics, in literary and social entertainments, and also a willingness to put ourselves in the breach, and help boost when we see a thing needs doing.

It is every student's duty to take hold of the college life as though it were a reality. Make up his mind that it will be as much to him as he makes it; that college spirit and personal independence are not warring elements, but should go hand in hand. And that we may get the

most out of our student life, we must unite for the good of all.

*
* *

We hope that in advancing the interests of athletics in our college the students will not overlook tennis. This game is not as exciting to watch as foot-ball or base-ball, but it has some advantages over either. The danger of injury is almost entirely done away with. A slip on a wet court, resulting in a slight sprain, is the worst possible accident, and this very rarely happens. Nearly all the muscles of the body are exercised. Once in a while you will find some base-ball or foot-ball player who sneers at tennis as a "girl's game." It is true that the young ladies can and do play tennis,—this is one advantage it has over base-ball and foot-ball,—but let the scoffer play a five-set match on a hot day, and his respect for the man who can play a strong, swift game against a lively opponent for two hours on a stretch will be vastly increased. Tennis can, however, be just as hard, or just as easy, a game as you wish. That is the beauty of it: its adaptability to all requirements of strength and endurance.

We hope to see some good tennis here this season. The Lawn Tennis Association has a good dirt court, and if the students support the game well, we can have a very interesting tournament this spring. Last fall some little playing was done, but foot-ball had the larger part of the attention of the students. However,

four N. H. C. men went to Dover and played four Y. M. C. A. men in doubles. In both matches our boys were victorious. This result was a surprise to us, and it showed that we have some good material.

Let us try to develop tennis, and perhaps in a few years we can send a representative to the state tournament at Centre Harbor.

THE NEW HAMPSHIRE COLLEGE CLUB

A SHORT time since a committee of the faculty invited the class presidents to meet them for the purpose of considering the formation of a college club. A provisional constitution was drawn up and a meeting of all interested was then called for Wednesday, March 13. At this meeting, which was largely attended, the constitution as reported by the committee was adopted, and the same committee was appointed to nominate officers, who were subsequently elected.

One of the principal objects of the club is the decoration with pictures and statues of the walls of the college buildings. Thompson Hall is notably well adapted for such decoration and by this means its interior can be made most attractive and interesting. Through the committee on art decorations, photographs of the great masterpieces and such original works of art as possible are to be obtained. The floral decoration committee is expected to use flowers for appropriate decorations especially during commencement and for the embellishment of the chapel.

The general object of these two committees is to surround us with objects of art and beauty, lessons of grace and culture; to cultivate by this means taste for the artistic, familiarity with the beautiful, and appreciation of the works of Nature and of Genius, which elevate and broaden the mind, which inspire noble thoughts and high ideals.

The lecture and entertainment committee will endeavor to arrange an interesting and instructive course of lectures, and together with the music committee to provide entertainments to be given for the benefit of the club. The latter committee will also have in charge the chapel music.

The social committee will arrange such social gatherings as may seem best for the more intimate acquaintance between all connected with the college and to cultivate the many desirable qualities which active participation in social life can alone give.

The constitution and officers are given below.

CONSTITUTION.

This association shall be known as the New Hampshire College Club.

Its objects shall be to encourage a spirit of fellowship and loyalty among all members of the college; to promote and develop all social and artistic tendencies, and wherever possible, to cooperate with existing organizations in any project which may enlarge and enrich college life.

Any person connected with the

New Hampshire College of Agriculture and Mechanic Arts may become a member of the club by signing the constitution and paying the required dues.

The dues of the club shall be fifty cents a year.

The officers of the club shall be a president, vice-president, secretary, and treasurer, elected by ballot at the regular meeting of the winter term.

The work of the club shall be chiefly carried on through special committees of five members each, on the following subjects: Social Meetings, Art Decoration, Flower Decoration, Music, Lectures, and Entertainments. The chairmen of the committee together with the regular officers shall constitute the executive committee. In addition to the special committees, there shall be auxiliary committees on each of the subjects named. Any member not belonging to a special committee may become a member of any auxiliary committee which he or she desires to join.

There shall be a regular meeting of the club the second Monday of each term. Special meetings may be called at any time by the executive committee.

This constitution may be amended at any regular meeting by a two-thirds vote of the members present, provided a written copy of the amendment has been presented at a meeting held at least one week before the amendment is voted upon.

President—Pres. C. S. Murkland.

First Vice-President—C. A. Trow.

Second Vice-President—E. H. Hancock.

Secretary—Miss Mary Comings.

Treasurer—W. F. Buck.

The following are the special committees so far as chosen:

Social Meetings—Mrs. C. S. Murkland.

Art Decoration—James Hall, Carrie A. Bartlett, Rena E. Young, Mabel L. Hayes, Lewis H. Kirtledge.

Flower Decoration—Clarence M. Weed, Mary B. Bartlett, George T. McKenna, Delbert A. Wheeler.

Music—Geo. L. Teeple, Abby F. Chamberlin, Herbert F. Moore, Fred W. Smith, Mrs. C. W. Scott.

Lectures and Entertainments—Henry C. Hodges, Jr., Chas. H. Pettee, Chas. L. Parsons, I. L. Dennett, Edna B. Snell.

THE MEANING OF TRUE SUCCESS

IN these days of struggle and toil, of success and failure, it is well for young people to pause at the threshold of their calling and ask, "What is the meaning of success in life?" Yes, and far more important is it for business men who are well started on life's mission, to ask frequently, "What is true success?" Shall these questions be answered according to the usual standard of the world, "Seek wealth, amass a large fortune, and you will not be lacking for friends or enjoyment," or shall they be answered from a higher and broader

standard, which has its foundation in righteousness and its end and purpose in the welfare of man? Shall our lives be measured altogether by the *dollars* we have gained or by the general *good* that we have done in the world? We who are blessed with the good things of life ought not to appropriate them all to ourselves for our own selfish enjoyment, but rather ought to give a portion for the enjoyment of those less prospered than ourselves. We should live that we may bless; gain that we may give; love that we may benefit those with whom we associate.

One of the chief requisites for success, is a noble character, without which our lives will not amount to much, for character is greater than gold, greater than intellect, greater than the world. True nobility of character is possible to all and everywhere. It matters little whether one be in a public position, or in a private station, in a royal palace, or in a humble cottage. There is no place where it will not have opportunity for exercise. Wherever generosity, purity, self-sacrifice, and truth are found, there will be found that for which all the people of the world should seek, true nobility.

“Be noble and the nobleness that lies
In other men, sleeping but never dead,
Will rise in majesty to meet thine own.”

The very first requisite for success is great difficulties in the way! Without difficulties there could be no such thing as success. Difficulties are too often regarded as enemies, but they are not such. Storms and dangers alone make skilled mariners.

The victory worth the boasting comes after many perils, after many struggles, after many defeats. The fiercest of foes, by developing your skill and endurance, may be thus made your best helper. So that the very best requisite for success is poverty, toil, and difficulties. Do not be discouraged because of them, for they are your opportunities for winning success. But you ask, “What does success mean?” To many and perhaps to most, it means the gathering of much gold, of stocks, of lands. America has thousands of such men who are successful if wealth be taken as the standard of true success. A half century ago there were but two millionaires in the United States, now New York alone has more than three thousand such persons. Three times that number are said to be in this country. Nearly, if not all of these great men began life in poverty, and reckoned by a commercial standard, they have been eminently successful. Very many of these men are noble specimens of Christian manhood, and are bravely carrying on the world’s great work, and in its best sense are successful men. Yet the experience of ages has taught us that it is never wise to take the mere accumulation of wealth as the standard of true success.

Euclid said, “There is no royal road to learning.” That statement is as true today as it was twenty-two centuries ago. There is no royal road to either wisdom or success in business. The path to them is not to kings alone, but is open to every

one. We may win them, but to win requires a struggle, perhaps many a defeat. If success were suddenly to come upon us it might find us wholly unprepared for it. The discipline gained, the habits required, in amassing a fortune for instance, ought to fit him who has it, to both value it properly and use it rightly; while often experience has shown that the sudden acquisition of wealth utterly ruined its possessor, and what is true of wealth is equally true of other things. So then if you fail in your efforts for success once, or twice, or many times, it is by no means a disgrace, and certainly is no cause for discouragement.

Life is a journey and he who would succeed should carefully consider the aim and end. Success is sure to crown the life of any person who possesses an average intellect, a high ideal, a disposition to work, who is ready to sacrifice if necessary and endure without murmuring, the needful trials of life. And yet how few succeed. The world might be divided into two classes—the few who succeed and the many who fail.

In order to succeed in life we should ask ourselves the question: "For what am I naturally fitted?" Having answered this question we should strive to do that work for which we have a talent and are naturally fitted. Some people are always wishing to do great things, but they should remember that success in life is won, not by doing great things, but by doing the little things no matter how small they may be. If mere

wishes could make a person rich or great, there would not be a poor or insignificant person in the world. While it is advisable to aspire after the higher, one should not undertake what to him is impossible, nor should he be fretting because nothing great has happened in his life. Be yourself. You have your own special place and work. Find it, and fill it. Do your work well no matter how humble it may be. It is always possible for one to lead an honest, noble, useful life, and that is success, and is as much within the reach of the humblest toiler, as it is for kings and princes.

When Franklin Pierce was a student at Bowdoin College he neglected his studies, giving much time to athletics and military exercise, with the result that at the end of two years he stood at the foot of his class. Then, stung by shame, he resolved to redeem himself and for the next two years applied himself constantly to his studies, so that he was able to graduate the third in a class which included such men as Henry W. Longfellow, John P. Hale, and others of great fame. After his graduation, and after studying law for some time with somewhat of his old spirit of negligence, he attempted to address a jury for the first time and broke down completely, making an absolute failure of it. But he knew the cause, and when a friend attempted to condole with him over the affair, he replied, "I will try nine hundred and ninety-nine cases if clients continue to trust me, and if I fail just

as I have done today, I will try the one thousandth one. I shall live to argue cases in this court house (Amherst, N. H.,) in a manner that will mortify neither myself nor my friends." And he did succeed for he became in a few years one of the most eminent lawyers of his state, and at length the president of the United States. This is one of the many examples of success wrought from the chaos of failure.

If there are a hundred steps to your ladder of success and you have not reached it in traveling ninety-nine of them, do not conclude that the journey is a failure. All the other steps will be failures unless you take the last one. Press onward and upward. The prizes of life are generally at or near the end of the journey, not at its beginning, and if we fail to go on, the prize is lost. Success belongs to him who dares to win it; to him who knows that no defeat can be final, save the defeat over wrong. Most real successes are won by overcoming the failures and difficulties in the way. It is the old route of patience and labor. It is lesson after lesson with the scholar, venture after venture with the merchant, trial after trial with the farmer, picture after picture with the painter, even failure after failure with the poet and writer, that at length wins this prize that most men are seeking. If now and then, like Byron, some one wakes to find himself suddenly famous, yet the majority find with the Duke of Wellington, that, "The secret of success is firmly

doing your duty in that station of life to which it has pleased God to call you." God has designed us for noble purposes and puts us in this world to develop the best that is in us, by giving each a work to do. Do not disappoint Him and shame yourself by asking for easier tasks, but do the work that lies nearest, and do it well. Life is full of opportunities. We are fairly surrounded by them and if we do not improve every single opportunity, our lives will lack the great thing needful to make them successful. This is an age of specialties—in agriculture, in mechanics, in science, in art, in literature. You can not do all, but you can do one thing well. You can, among these, find the work for which you are best adapted, and having found it, *do it*.

By improving every opportunity, by overcoming all the difficulties in the way and by doing your work well no matter how lowly it may be, you will surely learn the secret of a successful life and the meaning of true success.

MAY.

THE PROGRESS OF NATURE

TO an observer of nature, the spring is one of the most, if not the most, interesting times of all the year. It is then that the fetters of Jack Frost have been broken, and the country around once more has an appearance of thrift as well as of life.

No sooner is the snow gone from the nooks and corners into which it has drifted during the winter, than

one sees evidences of spring on every side. The warm weather which has been thawing the ground and its white covering has also had its effect on the trees. They show signs of life by the swelling of leaf-buds, and in some cases, flower-buds. These signs are followed by others more noticeable. Early flowers all over the hillsides begin to bloom; the sweet-scented trailing arbutus is the object of many strolls in some sections of New England; while the violets also offer an inducement to many who cannot get the trailing arbutus. Next in order come the anemone, dotting the hills and valleys with countless numbers of white flowers. These are soon followed by a few dandelions, which are destined to be the forerunners of millions within a short time.

The grass, which has had a warm covering all winter, also begins to show unmistakable signs of life, and with the help of the April showers it soon looks so green that it hardly seems possible that it has undergone such a change in so short a time.

By this time the trees have also completed the task of getting a new array of leaves, and they have so completely done this that where but a short time since one could see to some distance, he now can see but a little way, and even this view seems to be more of nature than it does of anything else.

Thus we might trace the ever varying scenes of this panorama through the summer, and into autumn when the fruits are ripe and when the trees

are gayly decorated with bright colored leaves, only too soon to emerge again into the scenes of winter.

But this is not for any one year. They come every year, and where can any one learn a better lesson, or spend an hour more profitably than by observing the change which takes place every day during the spring, summer, and autumn of our New England clime?

A. W. COLBURN '97.

GETTING AN EDUCATION

PART III.

AT the close of the first term Emily came home for a short vacation, and her parents were quite grieved to see that she brought with her several books which she read evenings.

When the next vacation came she brought more books than she had before, and now not only evenings, but part of the afternoons were spent in reading; and as it was now spring-time, when the fields were just beginning to become green, she used sometimes to leave whatever work she was doing to go out for a little walk in the yard and occasionally in the large field where the most beautiful violets grew. When she came back, tumblers would be filled with the dainty flowers and then placed in the different rooms. One lovely afternoon she went out and made a very good sketch of the house and brought it in to show her mother, who said, "Drawing pictures never was known to fill any one's purse yet." But regardless of the remark, Emily finished

the sketch, mounted it, and then hung it in her own room.

The last afternoon which she was to be at home she walked out, and instead of taking drawing paper and pencil she had with her writing paper and pencil. She went on till she reached a beautiful brook that ran through the field. Here she sat down and, alone, but with a powerful imagination, she began to write a story. She had no special reason for writing it, but she knew that if it never were read by any one except herself the exercise of writing as well as she could would be as profitable an afternoon's work as she could do. So she began,—at first almost regardless of subject,—and she worked steadily till the sun began to sink and the faintly falling shadows to remind her that she must return to the house. As she walked towards the house, thinking all the time of the story she had begun, she stopped to admire the beautiful scenery around her. Who has ever walked over a well-kept farm in early spring, at the close of a perfect day, when all nature was wrapped in a complete stillness, without pausing? And this farm afforded more than an ordinary picture; for here was a beautiful field and a small grove of young pines, and along the side a rippling little brook; and to add to the scene there was a wide path through the field; now the cows were being driven to the barn and a flock of lambs came frolicking along through the field from the pasture.

When she reached the house her mother met her at the door and asked

if the folks were all at home. She had thought that Emily, because of her long absence, must have been calling on some of the neighbors; and when Emily told her about having written a little story she was apparently horrified.

Next day, when Emily went away, it was with many forebodings of "too much writing and drawing" that her mother parted with her.

Towards the close of the last term the class was required to write a short original story and Emily "passed in" the one she had written at home. The teacher was so much pleased with it that she at once laid out a special course of work for Emily which was to continue through the long summer vacation, and which was to consist of daily writing a short essay on any subject which might suggest itself and reading a few good books.

Emily went home at the close of the year in a very ambitious mood. She was going to spend at least half of her time in writing and reading, and the other half in helping her mother. But she had been home only a short time when her mother was taken sick, and she was obliged to do all the housework besides taking care of her mother; and as her mother was sick nearly all summer, of course she accomplished very little and went back to school a very tired and a somewhat discouraged girl. She soon, however, managed to find time to write several stories which were published in a leading magazine. These attracted as much attention

from the public as any stories of the same length written that year. From this time on she gave all her time to writing and at last her parents were forced to believe that an education such as Cartersville afforded was of some use. Her father said he never expected Emily would turn her education so much to account; for since that time she "gave John Emery the mitten" he'd been thinking she was sort of shallow.

Emily is now thirty years old. She still writes stories and says, just as she said years ago, that she does not aspire to being anyone's "house-keeper," and when she goes home on a vacation and John Emery's wife and two or three young Emerys run in for a short call she is apt to go back and review the scene which once gave her so much trouble for fear she would lose her education by it; and she sometimes fancies herself Mrs. Emery and compares her life of busy mental work with that of an ordinary farmer's wife.

It has always been a great puzzle to John to know the meaning of that verse Mrs. Thurlow repeated to him so many years ago. I am afraid if his memory had served him as well as it ought that it would have served as nursery-rhyme to lull the young Emery's to sleep.

I think if Emily knew the conversation which her mother and John had about Hamlet, that a Shakespeare Club would be formed at once in Cartersville even if it flourished only long enough to give John some idea of who and what Hamlet was.

This story of Emily's career is a common instance of how persons of more than average ability who are surrounded by people of little education, can either choose a life work suited to themselves, or let someone else choose for them a work which will mean no less than an unhappy and unsuccessful life.

EDNA E. FOSS.

SUGAR CANE AND THE MANUFACTURE OF CANE SUGAR

SUGAR cane (*saccharum officinarum*), belongs to the grass family and is a stout, perennial plant, growing from six to twenty feet high, and in its general appearance somewhat resembles Indian corn. It is propagated by cuttings, as the power to perfect seed has been lost through cultivation, which is the case with the banana and pine apple.

The cane cuttings are placed in an open furrow and covered about two inches deep. After the cane germinates, a period of apparent rest occurs, during which the young sprout undergoes a multiplication process by sending out "tillers," or "suckers." This process being over, the cane, in a favorable season, grows with great rapidity, and is cultivated much the same as corn, until the plants are large enough to shade the ground and prevent the growth of weeds, when the crop is "laid by" or let alone until it is ready to be harvested and taken to the mill.

The leaves and tops of the cane are left in the field to be burned,

or otherwise destroyed, while the stalks are drawn to the mill to be ground. The grinding apparatus consists of a set of rollers, sometimes five or more, but usually three, placed one above and two below. The cane is passed between these rollers which crush out the juice and the remnants, called "bagasse," are carried to the furnaces where they are used as fuel.

The juice, which in the best mills averages about seventy-five per cent. of the weight of the cane, is strained, and then treated with lime to clarify it. It is then evaporated in vacuum pans, to prevent the discoloration of the sugar, which would occur if the concentration was done in the open air. When the evaporation is carried far enough the contents of the vacuum pan, now called "massecuite," are run off and allowed to cool, which allows the completion of the crystalization. The "massecuite" is then run through the centrifugals, which are large, perforated rotary drums. This separates the crystalized sugar from the molasses and completes the process of sugar-making.

The grinding season usually begins about the middle of October, and lasts from two and one half to three months. If there is always a sufficient supply of cane, and no accident occurs, the mills are run night and day, and on most plantations seven days in the week. The larger mills have a capacity of eight or nine hundred tons of cane per day, and a five million pound crop of sugar

is not unusual at some of the factories.

E. P. S. '91.

A WORD

No is but a simple word,
Small, but yet how strong;
It stands between strength and weakness;
It divides the right from wrong.
With no effort we may speak it,
Though how often do we fail,
Through lack of moral courage.
To say it, and meanly quail
In the presence of the tempter
And waver, falter till we fall.
At our downfall laughs the devil
In wild and fiendish glee,
For weakness in poor mortals,
Is a thing he is pleased to see.
When temptations thicken o'er us,
Shutting from us all the light
Of our better selves, our manhood,
Boldly enter then the fight
And with a strong defiant *no*,
Gain a victory for the right.

D.

MECHANIC ARTS

JUST at the present time, when so many people are calling this college either the "Durham College" or the New Hampshire Agricultural College, it may be fitting to write something on the mechanic arts, proving why this institution has a right to be called by its own name, which is the New Hampshire College of Agriculture and Mechanic Arts.

The students are at the present time provided with two complete mechanical courses. One of these is called the mechanical and the other the electrical. These two courses are nearly identical until the senior year during which the electrical students give especial attention to electrical machinery.

The importance of a mechanical, or

at least general mechanical, education must be manifest. The exhibition work at the shop shows the practical work done in both the iron and wood shops. Nearly all the articles there represent some particular branch of work.

The young men in the iron shop have, at present, a chance to do work for a definite purpose, as a large speed-lathe for the wood shop is being fitted up. While the shop is not intended to turn out finished mechanics, there are many who can and do turn out very creditable work. The iron shop is provided with two lathes, a shaper, a large planer, and a milling machine. The students do work on all of them. Another thing which is taught is shop measurements. It seems almost impossible that measurement can be made to one ten-thousandth of an inch, yet by the use of a little instrument called a micrometer it can be easily accomplished.

The drawing is especially helpful for the engineering student.

A careful perusal of the catalogue shows an excellent course in engineering.

After presenting the completeness of the mechanical courses, we may perhaps be told that too much attention is being paid to them to the detriment of agriculture. Such is not the case, however, as any one who cares to look over the catalogue may easily determine. The graduate of this college should be able to go into the world well fitted to earn his living, and there is no doubt that many

good men have graduated and will hereafter graduate who will reflect credit on the New Hampshire College of Agriculture and Mechanic Arts.

OUR OCCUPATION

THERE is no subject more interesting, especially at this time of year, when many people are looking about to engage in business, than how to get a living.

There are a host of persons who are discouraged and complaining because they cannot get all the good things, which they claim are due them from the world.

Where the grievance is that their talents are not appreciated, their merits not recognized, others fill the places which ought to be given them, and the gifts of the world are so unfairly distributed that they are ignored and neglected.

In some cases these men are of ability and have good intentions, but the majority of those who complain are idlers or pretenders. This assertion is illustrated every four years, when thousands of persons make a pilgrimage to Washington and present their claim for office, simply because the country "owes them a living."

The man who demands most, and is most violent in his censure of public ingratitude, is he who dresses at the expense of the tailor, drinks at the cost of his friends, and is in debt to all his friends. The trouble, to him, seems to be, that the world is already well filled and there is no room for him. There are a thousand applicants for every vacancy,

and when an opening occurs, the world not very strangely selects the men of most skill and ability rather than those who do not possess these qualities.

Business men are very shrewd, sharp and exacting; they demand of every applicant, for a place of honor, that he shall give evidence that he is no pretender, but an earnest, competent, conscientious worker.

Labor in some form is the price that has to be paid for everything which goes to make up the advanced civilization of today. Let every young man be ready to work, and eager to do something that will be of practical value to mankind. Many fail because their aims are not high and earnest enough. First are needed able and faithful workers, to fill all of the callings of life, and those who are willing to perform these simple and humble tasks. There is always "room at the top" for every man who will prove his fitness for such a place. The world is always on the lookout for the best skill and talent, and when these are found they are put where they will work to the best advantage.

E. H. FORRISTALL '97.

COLLEGE NEWS

A MEMBER of the Culver Literary Society at a recent meeting, sacrificed parliamentary rules to a desire for accuracy and addressed the chair as Mr. Vice-President.

Mr. Teeple closed the course of Division A in solid geometry by three

very interesting lectures on the history of geometry.

Philbrick '98 recently distinguished himself by stepping down two stories of the Demeritt Hall fire escape.

Several of the students who went to Concord were shown the workings of the state senate by Assistant Clerk Hill.

Several possible '99 men were in town last week.

There was a narrow escape from a bad fire at the Missionary social, caused by the falling of a chandelier. Coe '97 and Mr. Muzzey, whom we hope will belong to '99, prevented serious consequences.

A few mornings ago some of the students saw the unusual sight of a morning rainbow in March.

The Athletic Association intend to give a series of entertainments next term, the proceeds of which shall be used for the good of the association during the coming season.

Several men expect to enter college next term and take a special course, entering the '99 class at the beginning of next year.

Miss Mary E. Graves of Claremont, N. H., visited the college recently.

The college sold at public auction, March 14, about thirty head of cattle. A new herd will be purchased as soon as convenient accommodations can be found.

The class in advanced drawing will be continued through the spring term.

An agent of King, Richardson & Co. has been in town in quest of students who are willing to represent that company as book agents during the next summer vacation. It seems that he succeeded fairly well.

R. H. Blodgett is correspondent for the *Boston Globe* during the spring term.

The walks leading to Thompson Hall have been much improved.

E. S. Whittemore '97 was elected captain of the football team for next season.

F. D. Fuller was recently called to Hanover on account of the death of his grandmother.

On Saturday, March 16, a notice on the bulletin board informed the students that the almanac had ordained a total eclipse of the moon for Sunday, the 17th, at 9:51 p. m., and that those who wished to view it in a scientific manner might meet in the mathematical room at 8:45. About twenty took advantage of the offer and met as appointed. Prof. Pettee first gave a short informal talk on eclipses, telling why they occurred and how often, where they could be seen, and the relative frequency and extent of eclipses of sun and of moon. As the audience listened, they took occasional peeps at the moon, which was partly hidden by light clouds. When the talk was over the professor had the transits used in surveying carried out in front

of the main building, and those who wished took a peep at the moon through the telescope attached to the instruments. The sky was clouding over, however, and the moon was frequently hidden by clouds. Finally, about 9:30, the moon was almost constantly hidden and the students went home. Though the evening was unfavorable, yet a very instructive and pleasant time was enjoyed by all.

The Culver Literary Society held on March 15, a very interesting and exciting meeting. The first part of the evening was spent in listening to an interesting programme, consisting of essays, readings and extemporaneous speeches. One of the extemporaneous speeches was made by a young lady of the '98 class, being the first young lady to make an extemporaneous speech. Miss Caveno's subject was "Ownership of Railroads," and she handled it very ably.

Following this part of the program was a debate on the advantages offered to the young man by the East and West, respectively. The supporters of the East won on both the debate and the merits of the question.

The society then proceeded to elect officers for the ensuing term. The officers elected were as follows:

President—E. H. Forrestall.

Vice-President—A. W. Colburn.

Secretary—Miss C. L. Cummings.

Treasurer—J. N. Hunt.

Directors—W. F. Buck, Miss R. E. Young, H. F. Moore.

Critic—D. B. Bartlett.

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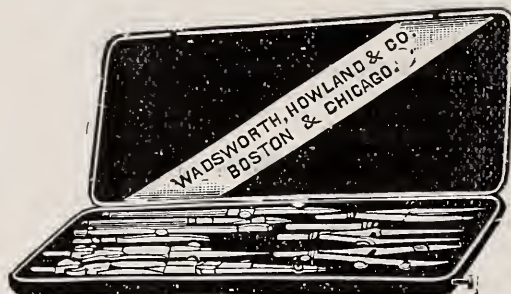
MAGAZINES.

Review of Reviews, volume 10.	The Century, 1893 and 1894.
New England Magazine, 1894.	St. Nicholas, 14 volumes.

REFERENCE.

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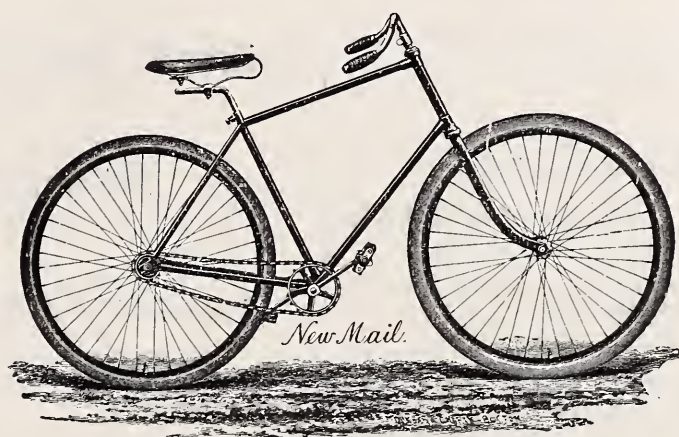
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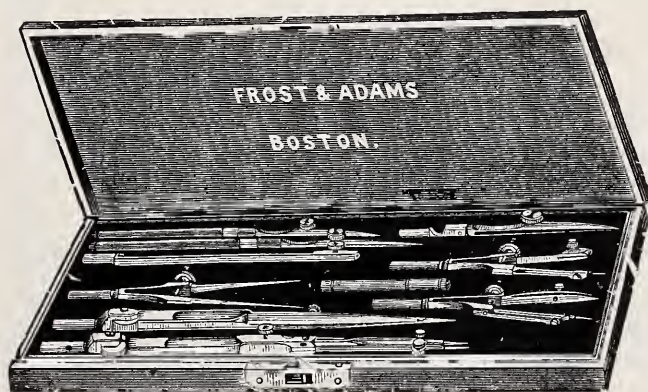
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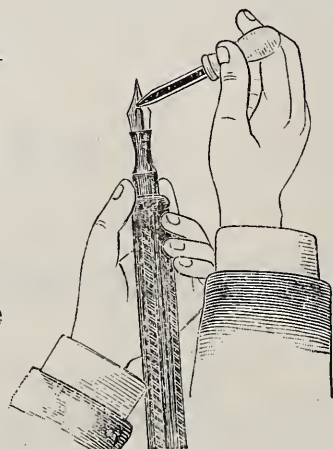
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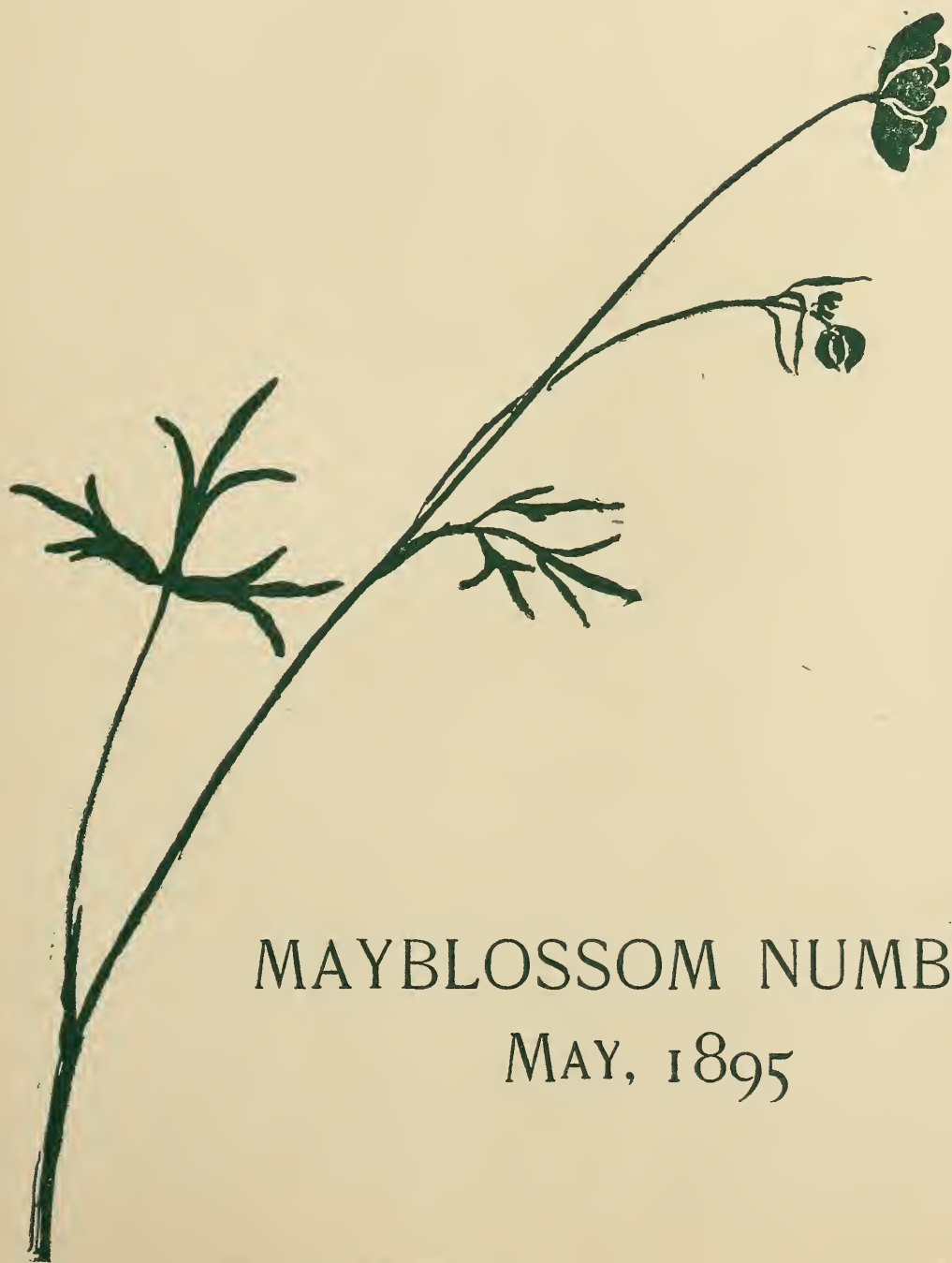
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THE NEW HAMPSHIRE COLLEGE MONTHLY



MAYBLOSSOM NUMBER

MAY, 1895

THE NEW HAMPSHIRE COLLEGE MONTHLY.

VOL. 2.

NO. 8.

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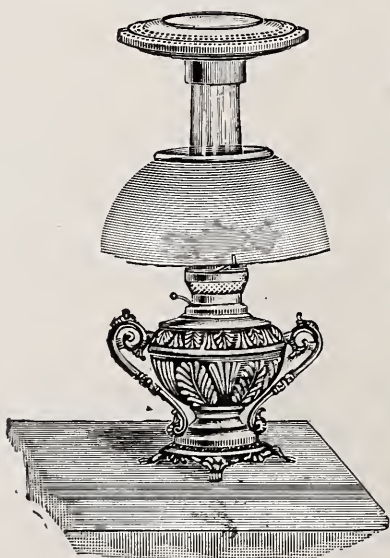
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A FLORAL TRAGEDY

(From "Ten New England Blossoms," by courtesy of Houghton, Mifflin & Co.)

THE NEW HAMPSHIRE COLLEGE MONTHLY

VOL. 2

MAY, 1895

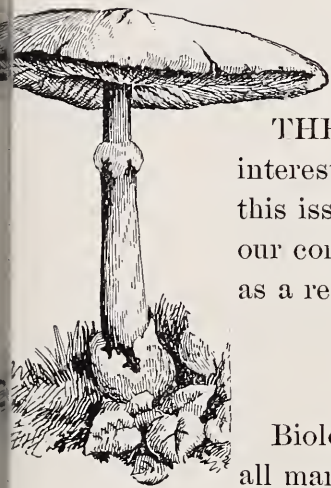
NO. 8

OF MATTERS BIOLOGICAL

THE EDITORS of the *Monthly* having kindly invited those interested in the biological department of the College to make this issue a special Mayblossom Number, we are glad to extend our cordial thanks for the courtesy; and to present these pages as a result of our efforts.

*
* *

Biology is the science of life: in its broadest sense it includes all manifestations of life, from the subtle thoughts of the philosopher's brain to the sluggish movements of the primitive monad. In this sense, it may fairly claim as its own a host of sciences that are seldom regarded as having such relations to it,—anthropology, sociology, paleontology, psychology,—all these are manifestations of life, and Biology may fairly look upon them as her children. But generally the devotees of this glorious science are more modest, and are content to speak of biology as more or less a synonym of the natural history of a



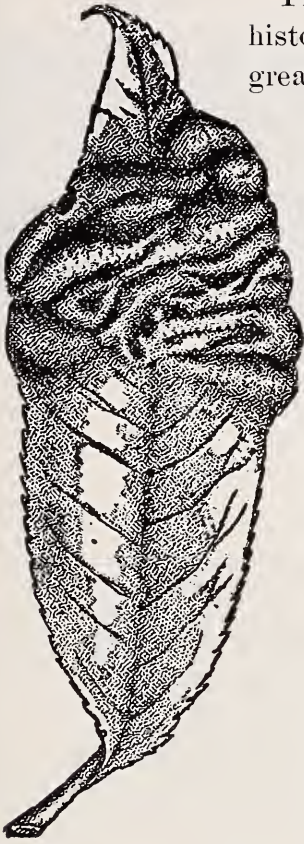
few years ago, and to find sufficient expression in the sciences of botany and zoölogy, as commonly understood. It is in this sense that we have here to deal with the subject; and, in consequence, for present purposes we may define biology as that science which deals with the phenomena of living things, whether belonging to the plant or animal kingdom, or to that intervening region which Haeckel calls the Protista. Thus restricted, the field still is almost hopelessly extensive; from it one can only expect to glean here and there a sheaf of truth, although in the gleaning he will get vistas of shady valleys and quiet waters where the Creator is ever working out his wondrous plans.

* * *

The importance of the biological sciences in any scheme of agricultural education can scarcely be over-estimated. Agriculture is builded upon the growth of living things, and the student of agriculture must obtain a sound knowledge of the laws of growth as a basis for any adequate development. Inasmuch as the plant forms the starting point for agricultural production, so botany—the science of plants—should form the basis of biological training in agricultural education. After the plant in its manifold manifestations has been thoroughly studied, the animal in its myriad forms should receive attention. In both botany and zoölogy will the student learn of many laws of life that are of first importance in the successful production of the fruits of the earth.

* * *

The knowledge obtained in pursuing these studies forms, however, but a small part of their value to the future farmer or fruit-grower. The discipline of the perceptive faculties—the learning to see things—is perhaps of more importance. Besides this, a proper study of these subjects gives discipline in expression and in thinking power, as well as in the training of the memory.



PERHAPS no argument for the study of the natural history sciences in courses of agricultural education carries greater weight than that drawn from the losses due to fungous diseases and noxious insects. Cultivated plants are beset by many enemies. Some of these belong to the animal, and others to the vegetable kingdom. Of the former the insects, and of the latter the parasitic fungi are by far the most important. By the development of these parasitic fungi upon growing crops, the peculiar maladies known as fungous diseases are produced; and to these diseases American agriculture annually sacrifices a large percentage of her products. The money value of the loss thus sustained is believed, by those who have studied the subject, to amount to hundreds of millions of dollars yearly.

It is difficult to determine definitely the amount of damage inflicted over a wide area upon a given crop by its fungous enemies, but it is safe to say that in most cases it is much greater than is ordinarily supposed. The following examples will serve to illustrate the magnitude of the loss in the case of certain crops.

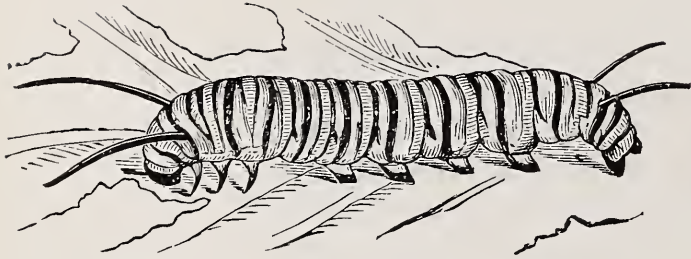
In 1886 Commissioner N. J. Colman, of the United States Department of Agriculture, after careful estimates, stated: "We may safely assume that the value of the corn and wheat annually destroyed in this country by diseases induced by fungi is not less than \$200,000,000." The average annual loss due to the rust of wheat in Illinois alone has been estimated by Professor T. J. Burrill at nearly half a million dollars; and careful estimates made by authoritative observers in widely separated states indicate that the average yearly loss of oats in the United States due to smut equals or exceeds one tenth the entire crop.

* * *

It is probable that fruits suffer an even greater proportionate injury than do the grains. "The blights and rots of the fruit plantations," said Professor Burrill, several years ago, "would,

if exactly and certainly expressed in dollars and cents, frighten cultivators from their business." The loss from apple scab, throughout most of the apple-growing regions of the country, ranges from one sixth to one half of the entire product. The strawberry blight, in many localities, often ruins crops of this luscious fruit. The rots and mildews affecting grapes have led to the extermination of hundreds of vineyards. The loss of peaches from the brown rot on the Chesapeake and Delaware peninsulas, in 1888, was estimated by competent observers at from \$400,000 to \$600,000. Similar statements could be made concerning nearly all our fruits.

* * *



THE injury due to noxious insects is also very great; in Illinois it has been estimated by a good authority that the insects derive as great a profit from farm products as do the farmers, and it is quite generally conceded that a loss of ten per cent. is a small average for insect depredations.

* * *

To prevent such enormous losses, knowledge and skill are required. Such knowledge and skill form an essential part of any well-devised agricultural curriculum.





MAYBLOSSOM RECEPTION PAPERS

AN interesting event in connection with the first term's work in botany is the Mayblossom Reception, given by the class to the college at large. In 1894 this reception was held May 25, the biological laboratories and recitation rooms being profusely decorated with flowers.

The latter part of the evening was devoted to the reading of several original papers by students. These papers dealt especially with the relations of flowers and insects. Three of them appear below.

THE PINK LADY'S SLIPPER THE ORCHIDS are extraordinary flowers because of their adaptation to insects. In New England there are a number of species of great interest. Among the most common are the Lady's Slippers; of these there are the yellow, the white, the showy, and the pink. The latter is the most abundant and is a good illustration of the complicated apparatus a flower may possess for insuring cross-pollination.

To the casual observer the flower seems shaped like a moccasin with the most conspicuous portion a large inflated sac hanging downward. This sac is called a labellum and is formed by the two lower petals. Above this are two showy petals and a sepal; below is another sepal.

In the centre of the front of the sac is an opening made by the petals bending inward. If one opens the sac it is found that the inside is furnished with hairs pointing obliquely upward and back, many of which are tipped with nectar.

The stigma of the pistil is at the upper end of the sac, and immediately behind it are the anthers—one on each side; these are furnished with a peculiar sticky pollen. Back of each of these anthers is an opening to the outer world.

The significance of these peculiar arrangements is seen if one watches a small black bee, which is a visitor of this flower, alight on the sac, enter and feed on the nectar, and then try to get out the same way it came in; it finds it cannot do so on account of the edges of the petals being turned inward. It

wanders around, and finally, by aid of the hairs pointing obliquely upward and back, makes its exit through the opening back of one of the anthers; in doing so it passes the stigmatic surface first, then the large, flat developed anthers, getting the sticky pollen on its head and back as it brushes past them, and therefore, as it goes to another flower with the pollen, cross pollination is insured.

This is only one of many arrangements which the orchids possess for cross pollination; a number of species are even more complicated in their structure than the Pink Lady's Slipper.

Darwin says, "The more I study nature, the more I become impressed with ever-increasing force, that the contrivances and beautiful adaptations slowly acquired through each part occasionally varying in a slight degree but in many ways, with the preservation of those variations which were beneficial to the organism under complex and ever-varying conditions of life, transcend in an incomparable manner the contrivances and adaptations which the most fertile imagination of man could invent."

Sometimes bumble-bees get in the blossom, and being unable to get out, die there. A specimen of this kind, found by Miss Mary Comings, is represented in the frontispiece illustration, "A Floral Tragedy."

MABEL E. BUNKER '97.

SOME FLORAL ODDITIES Most flowers have adapted themselves by their bright colors and sweet odors to pollination by bees, butterflies, moths, and similar insects. Besides these, there are a large number of flies, bugs, and other insects that do not love those colors and odors which we consider attractive. There are, however, a few flowers that especially adapt themselves by peculiar colors and disagreeable odor to these kinds of insects.

The first flower to which I will call attention is one discovered by Sir Stanford Raffles and named after him *Rafflesia*. It is a large, fleshy parasite, growing on the roots of other plants, without leaves and consisting entirely of a single enormous flower, of a very thick succulent substance. It has exactly the smell of tainted beef. Swarms of flies are constantly hovering

over the mouth of the nectary. These flies lay their eggs in the substance of the flower.

Another flower is the Purple Trillium, noted for its deep purple color. It has a very disagreeable odor. This flower is pollinized by flesh-flies, which feed upon the pollen. The leaves stand out in a horizontal position, giving a good landing place for the insects. This flower is visited by no other insects.

Next in order comes the English Jack-in-the-Pulpit, or Cuckoo-Pint. This is a very singular flower, and one worthy of our attention. It is not one single blossom, but a whole group of separate blossoms closely crowded together in two or three little distinct bundles on a long spike or succulent stem. In looking at the Cuckoo-Pint from the outside we see at once that it consists mainly of a large greenish-purple sheath or hood, at the top of a long stalk, inclosing a tall, fleshy spike or



THE JACK IN THE PULPIT

club, shaped somewhat like a mace, and protruding from the hood in front so as to show its colored and expanded summit above the point of junction of the two lips.

The little knobby flowers are not all quite similar to one another, but consist of three distinct kinds. At the bottom there is a group of small pistil bearing flowers arranged in irregular rows. Each consists of a single rudimentary berry, containing a single seed, and crowned by a little point or stigma which is the sensitive surface to be fertilized by the pollen from other flowers.

Each of the stamens consists of two tiny bags, which open when ripe and discharge their golden pollen. This flower is pollenized by little flies which crawl down past the fine hair inside the tube, but when it tries to return it finds its passage blocked by these same hairs which point downward. Here the flies are imprisoned until the flower develops. As the flower begins to develop the pollen is shed upon the insect until it is completely covered.

The flies remain at the bottom of the flower until they have eaten nearly all the pollen, and are anxious to escape. By this time the hairs have withered and the flies hasten to another plant to repeat the process.

The American Jack-in-the-Pulpit, represented in the figure below, is quite similar to its English cousin, but has not the hairs that wither. In our plant the flies must escape either through an opening at the base or through the upper portion of the spathe which gradually opens wider as the flower grows older.

E. S. WHITTEMORE '97.

THE SLEEP OF FLOWERS ONE of the most interesting things in the study of plants is their sleep movements. Both the leaves and blossoms of some plants sleep, but there are many more plants in which the leaves alone sleep than there are sleeping blossoms.

We have all seen some of the sleep movements of plants; everyone has noticed how the three leaflets of the clover are expanded during the day and are folded downward at night. When a leaf sleeps at night it always takes some position which

prevents its upper surface from facing the zenith. It is therefore probable that the chief benefit derived from the sleep of the leaf is the protecting of the upper and more sensitive surface from being chilled at night by radiation.

The blossoms receive other benefits from their sleep movements. By closing at night and in cloudy weather they shut out the dew and rain and prevent the pollen and nectar from being washed away or spoiled. The sleep of flowers also has reference to the habits of insects. It is evident that a blossom fertilized by a night flying insect would derive no benefit from remaining open during the day, and on the other hand a blossom fertilized by bees would gain nothing by being open at night. Thus the visits of insects are regulated by the sleep of the blossoms.

One of the best examples of the day sleeping blossom is the Nottingham Catchfly. Each blossom lasts three days or rather three nights. The stamens are arranged in two sets, one in front of the sepals and the other in front of the petals. On the first evening the bud opens and the first set of stamens develop. At about three o'clock in the morning the petals begin to wind themselves up and by daylight the blossom appears to be faded. The next evening it opens again and the second set of stamens develop. The process is repeated the third night, only this time it is the pistil that grows.

I have noticed with interest some of the ways in which blossoms go to sleep. The petals of the oxalis wind up tightly and look like withered blossoms. The common field bluets drop their heads toward the ground and the petals incline toward the centre of the blossom. The petals of the cinque foil curl up and form a cap over the essential organs.

The sleep of flowers is only one of the interesting things which we may see every day in the plant world if we but open our eyes and look for them.

MABEL L. HAYES '98.

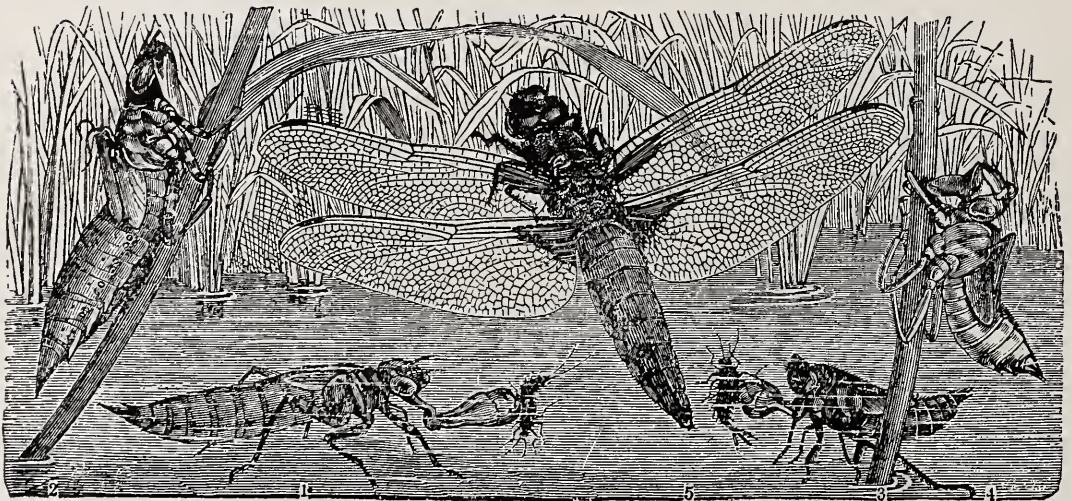


THE TRANSFORMATIONS OF THE DRAGON-FLY

CERTAIN species of dragon-flies are very common insects around our streams and ponds during the summer months. In some localities they are known as devil's-darning-needles, and by some people are deemed dangerous on account of their supposed biting and stinging qualities. This supposition is a mistake as these insects are perfectly harmless to mankind, although very fierce enemies to the smaller insects, such as the flies and mosquitoes.

The dragon fly is swift and active on the wing, seldom alighting and rarely, if ever, walking like other insects. A large part of the surface of the head consists of two compound eyes which in many species completely encircle the head, so that if it be looked at in the front it will appear to be all eyes. The mouth parts resemble those of the grass-hopper, with the exception of the under lips which are broader and more flat so as to cover the lower part of the face.

The transformations of the dragon-fly are incomplete; the larva and pupa may be seen in pools, when the sun shines on



TRANSFORMATIONS OF THE DRAGON-FLY

the surface of still water, creeping over the bottom and feeding on aquatic insects. One peculiar character of the dragon-fly is in the manner of depositing the eggs, which is all done under water. When the female is about to deposit her eggs she alights upon a weed close to the surface of the water and deposits the eggs under water, firmly gluing them to the stem. Here the eggs remain for about three weeks, when the larvæ first appear. These have broad flat bodies, being very active, and as soon as hatched they swim away in search of food. The second stage of development is that of the larva changing to the pupa state; after the larva has become full grown the skin splits on the back and the pupa works its way out.

In the last stage the pupa changes to the adult by working its way to the surface, when the skin of the pupa again splits and the dragon-fly works its way out into the new world of sunshine.

In "The Princess," Tennyson describes this final change in these words :

To-day I saw the dragon-fly
Come from the well where he did lie;
An inner impulse rent the veil
Of his old husk; from head to tail
Came forth clear plates of sapphire mail.

He dried his wings; like gauze they grew
O'er croft and pasture wet with dew,
A living flash of light he flew.

H. W. BARNEY '97.



FROM THE STUDENT NOTE-BOOK

THE fact that the only adequate method of pursuing the study of living things is to study living things, is becoming more fully recognized by the educational world every day. Fortunately the old-fashioned text-book in which the fields of life were parcelled out like a cemetery, and head-stones with Latin inscriptions marked the graves of Nature's dead creations is itself rapidly becoming buried. The dead creations have come to life, and to-day exhibit to the student the varied phases of their existence. Thus pursued, the study of botany and zoölogy acquires a new interest, and offers excellent opportunities for training in drawing and in English. In this College the student describes by word and drawing the characteristics of each form of life studied, making as finished an essay as possible out of each study. We append below some extracts from these note-books, with photographic reproductions of student drawings.

THE AMOEBA SIMPLEST OF ANIMALS

THE AMOEBA is found in stagnant pools, adhering to submerged objects, and is one of the lowest forms of life. It consists of a jelly-like mass of protoplasm—that substance in which all life exists—without definite body structure or cell wall, and is, in its normal active state, constantly and more or less rapidly changing form. In size it rarely exceeds one-hundredth of an inch in diameter. The Amœba consists of two parts; the endosarc which is a granular, semi-transparent mass, and the ectosarc which is a clear, colorless, transparent substance enveloping the endosarc. Within the endosarc are dark specks, which are food particles, and the nucleus and contractile vacuole. The contractile vacuole appears as a round light-colored spot in the endosarc which increases in size, suddenly collapses, and then reappears. (Fig.

1, *a*, *b*, *d*, *e*.) The method of locomotion is by pseudo-pods—false legs—which may be thrown out from any part of the body. The prolongations are produced by the ectosarc which advances by a flowing motion and is followed more or less closely by the endosarc; as the substance necessary to produce these projec-

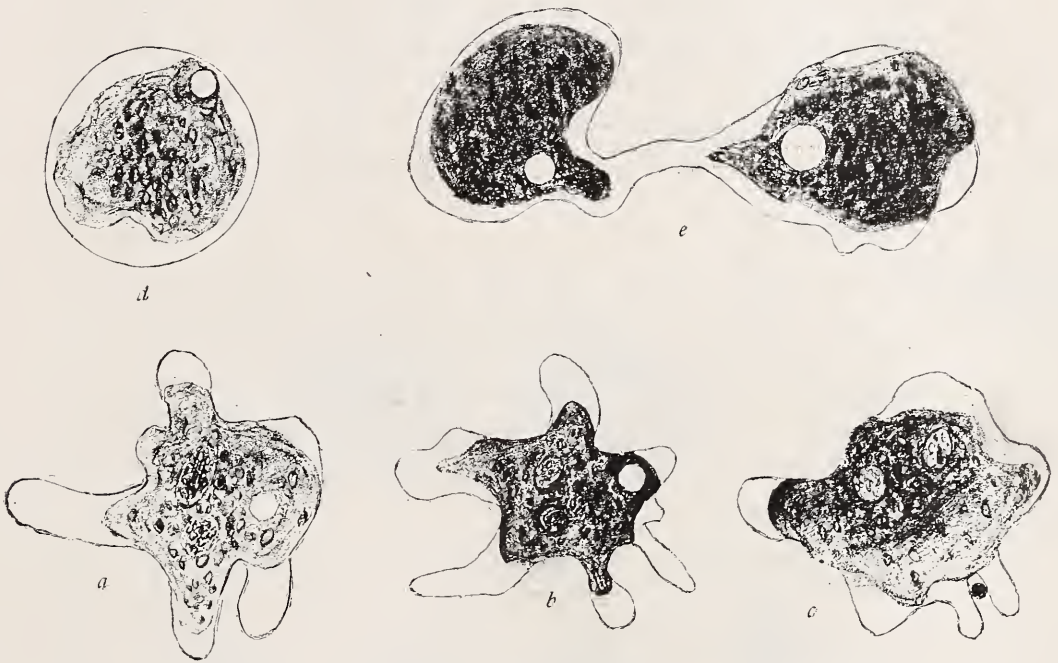


FIG. 1. Amœba: *a*—*c*, normal form, showing changes of shape; *e*, last stage of fission; *d*, encysted stage. Magnified.

tions is drawn from other parts of the body, it causes the whole mass to change position. (Fig. 1, *a*—*c*) shows different shapes of an active specimen. The animal also feeds by means of these projections: an arm flows out on either side of a food particle (*c*) and envelops it. The indigestible portions of the food particles are left behind by the mass being dropped out of any part of the body in the same way as the food is taken in at any point.

Figure 1, *e*, shows an Amœba in the last stages of fission, this being its method of reproduction. The nucleus first divides and the endosarc breaks up into two parts, each of which

contains a portion of the nucleus; lastly, the ectosarc, after being drawn out to a mere thread, also separates.

In order that the *Amœba* should not be destroyed by the drying up of the water in which it lives, nature has given it the power of encystment (Fig. *d*). This consists of the formation of a thick wall about itself, usually of globular form, which is developed during the drying up of the water. The *Amœba* then remains dormant until sufficient water is present, when the wall is dissolved and the body again takes on its active state and continues to grow and divide.

L. H. KITTREDGE '95.

THE EUGLENA A CONNECTING LINK

THE EUGLENA is a tiny creature about $\frac{1}{10}$ mm. in length, and of a green color. The body is spindle-shaped, the centre being much broader than the forward end, which is furnished with a flagellum by means of which the creature swims. When not swimming the creature is continually contracting and expanding, giving rise to a series of motions called euglenoid.

The body consists of protoplasm surrounded by a cuticle which is sometimes striated. The protoplasm is tinged green by the chlorophyll which is found in the chromatophores. Near the posterior end of the organism is a nucleus with a nucleolus seen as a large light spot within, and a spot nearer the anterior end, which is the non-contractile vacuole, beside which is the "eye spot" of a reddish color.

The flagellum issues from the anterior end of the creature, out of a funnel-shaped depression. Besides aiding the creature in swimming, the flagellum is the means by which it obtains its food. It lashes the water into a tiny whirlpool, and in this way small particles of food are brought into the funnel-shaped depression or gullet, are forced into the soft protoplasm, and digested.

After a period of activity the *Euglena* loses the flagellum and assumes a resting condition by becoming surrounded with a thin white wall. After remaining in this condition for a time it emerges and becomes active.

Euglena is found in standing water, to which it gives a greenish tinge, or it may be found on the sides of aquaria as a greenish coating. It reproduces itself by simple fission of the resting form, dividing into two, four, or eight parts, each of which becomes an *Euglena*. Multiple fission also takes place, the contents of the resting form dividing itself into a great number of parts, each of which becomes a perfect creature.

In the sunlight the chlorophyll in the *Euglena* breaks up the carbon dioxide, giving off oxygen in the same manner as do plants. In this respect it is like a plant; but because it digests organic food, taken by means of its flagellum, it becomes like an animal.

D. A. W. '96.



FIG. 2. *Euglena viridis*: *a* to *f*, active form, showing changes of shape; *g*, end more highly magnified, showing gullet (after Parker); *h*, encysted form, showing binary fission; *i*, encysted form, showing multiple fission. (All but *g* original.) Magnified.

ABOUT DESMIDS THE DESMIDS are very small fresh-water plants. The cells are of various forms, the most common shape being a crescent. They occur sometimes in groups and sometimes singly. The reproduction of desmids takes place in two ways, sexually and asexually. In the asexual mode one cell divides its contents into two parts, and then the cell wall breaks and there are two cells instead of one. This may be repeated again and again. In the sexual mode two cells come near each other, and each sends out a tube. When these tubes meet the separating wall finally disappears and the contents of the two cells come together to form a resting spore.



CARRIE A. BARTLETT '97.

OEDOGONIUM REPRODUCTION BY ZOÖSPORES

OEDOGONIUM is a small water plant which exists in the form of simple filaments that are attached to sticks, stones, or other objects by root-like projections on the primary cell. The form of the plant much resembles that of Spirogyra. It grows in ponds and slow-running brooks, forming a greenish mass around objects in the water. It is very common in our brooks, springs, and ponds; it is sometimes called water scum.

Oedogonium reproduces in two ways, by the sexual and the asexual modes. The asexual method is very peculiar. During the spring the filaments break open, at the division of the cells usu-



ally, and the protoplasm escapes as a zoöspore. Cilia are then formed around one end of the zoöspore (*a* in figure above) by which it is enabled to swim about. It forms a cell wall around itself, and finally attaches itself to some object in the water (*b*). This cell then elongates and forms partitions (*c, d, e*) till it becomes a long filament containing many cells like the old filament. These are not perfectly smooth, but have folds by which the plant is enabled to grow in length.

It is wonderful to think how active everything is about us. We seldom think of plants as being able to move in any way except upward; but even these little plants which we see in the water nearly every day, without heeding them, are full to overflowing of life and activity. And while we fancy them to be insignificant things, we learn by careful examination that they carry out some of the most wonderful laws of nature.

MARY B. BARTLETT '96.

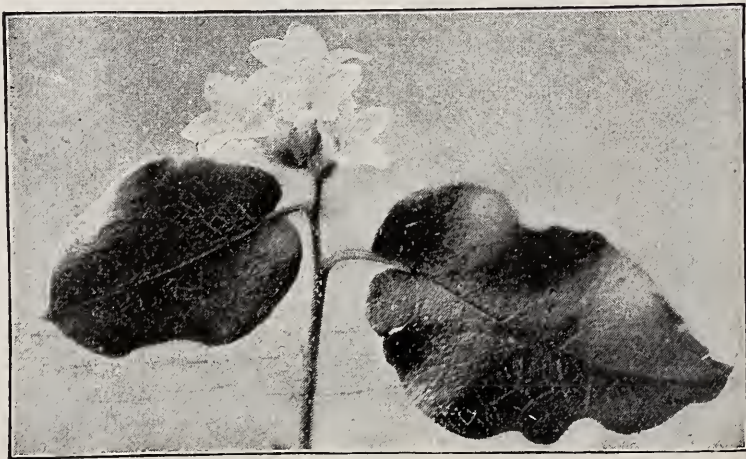
THE MAYFLOWER OR TRAILING ARBUTUS

The leaves of the mayflower, or trailing arbutus, grow alternately upon a tough, trailing stem. The older parts of the stem become woody and are dark brown in color, but the new growth is green and has upon it minute reddish brown hairs. These hairs are the most numerous toward the tip of the new growth.

The leaves themselves are petiolate, that is, they have a petiole, or leaf stem. The leaves are oval shaped, have an entire margin, and a pinnate venation; their surface is glabrous, being smooth and destitute of hairs, although upon the edge of some of the leaves very short hairs similar to those on the stem, can be seen. The flowers grow in small clusters of from two to six or eight individual flowers, and generally at the end of a short branch from the main stem. The scape is very short, the cluster seeming, at first sight, to grow directly from the stem. There are three bracts to each flower; these bracts are of a green color, and have an entire margin and an acute tip; they are about one fourth of an inch long.

About one sixteenth of an inch further up the stem, or scape, are the sepals; there are five of these and they are quite similar in size and shape to the bracts, but they differ from these in color, being nearly white with sometimes a tinge of light green. They overlap one another, one sepal having both edges covered and the other four have one edge in and the other out. Within this ring of sepals is the corolla; it is deep bell-shaped, and the upper part divides itself into five petals. The bell-shaped part varies from one fourth to one half of an inch in length, and the petals from three sixteenths to three fourths of an inch in length. The petals have an entire margin and an obtuse tip; they are usually though not always of a delicate pink color, but the lower part of the corolla is nearly always white. The inside of the bell-shaped portion of the corolla is lined with very fine silky hairs, which point upward. Within the corolla are the stamens, pistil, and nectar-secreting surface around the ovary. Before describing these it might be well to note a peculiarity of this flower. Although all the flowers have both pistil and stamens, one or the other is very likely not to mature; either the stamens will be well developed, and the pistil abortive, or the pistil will be well developed and the stamens so small that no anthers will appear. The latter is perhaps an extreme case, and we find many mayflowers with both pistil and stamens well developed.

The number of stamens varies with different flowers, but there are generally not more than ten; the filaments are of a white color, and the anthers a very light brown. The top of the stamens usually reaches to the base of the petals. In the centre of the corolla and surrounded by the stamens—when they develop—is the pistil; like the stamens it seldom grows



much above the bell-shaped portion of the corolla. The ovary which is connected with the stigma by a comparatively long style, is at the bottom of the bell, and contains several minute embryo seeds. Surrounding the base of the ovary is a secretion of nectar, but no well defined nectary can be found.

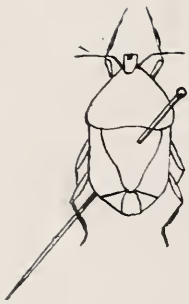
The odor of the mayflower is very sweet; on this account, and also because it is one of the first flowers to open in the spring, it is much prized and sought for in the many parts of New England where it grows.

JAMES A. FOORD '98.

OUR ILLUSTRATIONS

The illustrations in this issue of the MONTHLY are taken from various publications of the biological departments. We desire especially to acknowledge the courtesy of Messrs. Houghton, Mifflin & Co., in loaning electrotypes of the frontispiece and the figures on pages 5, 7, and 18, from "Ten New England Blossoms." The cover figures and several initials were drawn by Mr. James Hall, while the figures under "The Student Note Book" were drawn by Mr. L. H. Kittredge '96. Several of the other figures are from the Standard Natural History.

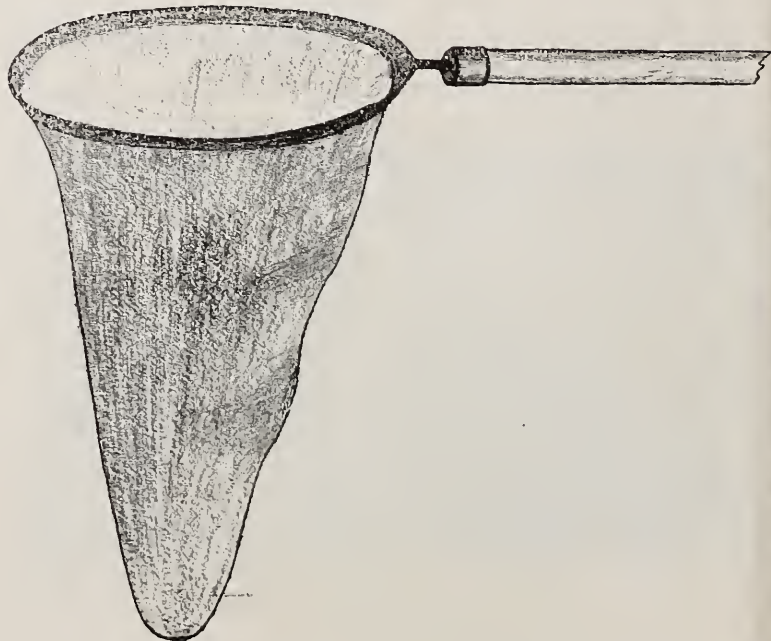
ON COLLECTING MOTHS AND BUTTERFLIES.

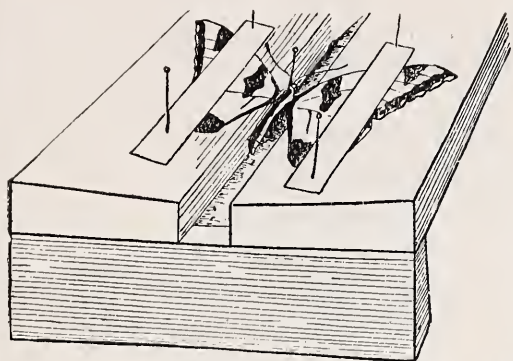


IN FEW departments of natural history are there offered greater inducements or facilities to the lover of nature than in entomology. Material can be found almost anywhere and at all seasons. Many volumes have been written on collecting, preserving, and studying insects; but the more general and important directions are simple and easily carried out.

It is not necessary to provide one's self with all the appliances advertised by natural history furnishing stores; most of the paraphernalia can be made by any one, and the more experience one has, the simpler will be his outfit.

In collecting and preserving butterflies and moths, which are perhaps the most attractive and interesting order of insects to the amateur, a net is one of the most important appliances. It is made by bending a piece of stiff iron wire into a circular shape, and to this is fastened the bag or net proper, which should be from two to three feet deep, and made of strong mosquito netting, muslin, or something similar. The ends of the wire loop may be soldered to a ferrule which is slipped on the end of the handle, or they may be fastened directly to the pole and wound with small wire or cord. The handle should be light and strong and about five or six feet long. A coat of many pockets (not necessarily of many colors) is almost indispensable. One pocket may be used for empty boxes and bottles; another for specimens captured on the trip; and another for pins, phials, and





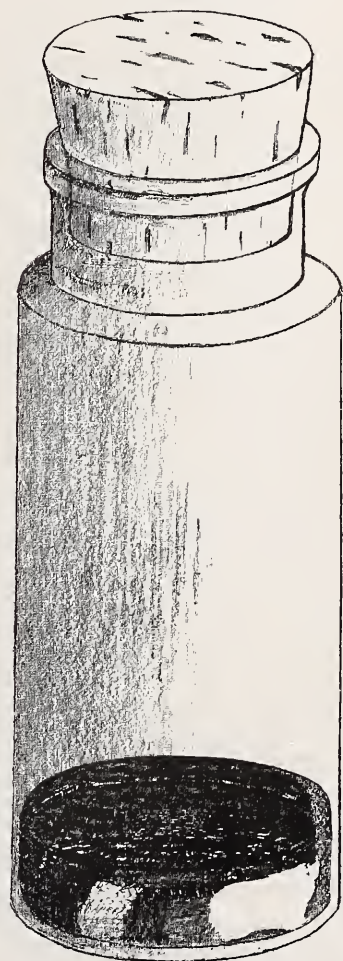
sundry articles. A haversack or cigar-box of a convenient size, in which partitions have been made for carrying boxes, phials, etc., is a good thing. This is strapped over the shoulder and around the waist to hold it more firmly

in place and keep it from bouncing about when you move. A strong trowel is also a very handy thing to have sometimes. Above all, the greatest requisites in collecting are a pair of sharp eyes and quick, ready hands, with coolness and self-possession. Thus equipped, one starts out for a day's collecting. In the spring the earliest butterfly seen about here is the *Venessa Antiopa*, or Mourning Cloak, as it is commonly called. This butterfly hibernates, clinging in a stupefied condition to the under side of rocks and pieces of old wood and bark, in a sheltered place. In the spring it thaws out, as it were, and lays its eggs for a new generation.

As the season advances the number of species rapidly increases and the collector's time will be fully occupied if he wishes to procure all the varieties.

The careful entomologist who prides himself on the appearance of his specimens must not rely on the adult insects; but must collect the earlier stages and raise the butterflies and moths from the worms, crysalids, and perhaps the eggs. In the spring before the leaves come out, many cocoons can be found on low bushes, fences, and various places which will more than repay the trouble of hunting for them.

Having been out in the fields and woods all day and made a good catch, one comes home tired out perhaps with his day's tramp. But his work is not over; the insects must be set before they become dry and stiff. The



insects should have been killed immediately after their capture, in a cyanide jar which will be described later. This work of setting the butterflies is a very particular one and requires considerable skill and patience. For this a setting board is needed. It is made with two pieces of board about twelve to fifteen inches long by two to four wide and about a quarter thick for butterflies and a half for the larger moths (see fig.). These pieces are from one fourth to five eighths inches apart and are fastened at the ends to a cleat on the under side; a strip of cork is tacked or pasted under the groove to receive the pins. The pins should be thrust through the thorax, which is the large part of the body just behind the head. The body of the insect is put in the groove and the pin pushed into the cork. Now with a setting needle, which is a common needle inserted in the end of a small stick for greater convenience in handling, drag the forewings forward till the hinder margin is in a straight line across the board. Then arrange the hind wings so as to show them off to the best advantage. When the wings are in the proper position, strips of card-board may be laid across the wings to keep them in position. Drag forward the two front legs and arrange the antennae in a natural position. Four or five specimens may be set upon one board and then they should be put away in a dry, clean place to dry or set. It generally requires from two to three weeks to set thoroughly a large butterfly or moth.

When the wings and joints are well hardened, the insect may be removed and placed in the cabinet or drawers, as the case may be, with the collection proper. The collection may be kept in tight cases or sets of drawers. They should be dust-proof as nearly as possible, and lined with clean white paper. The specimens may be pinned to loose sheets of cork which enable them to be removed without taking out the whole case or drawer.

The cyanide bottle mentioned above is very easily made. Get a wide mouthed bottle or canning jar which will hold about a pint and in the bottom put several small lumps of potassium cyanide. Over this pour enough plaster of Paris made into a thick paste with water so that the whole is about an inch or an inch and a quarter deep. Let it dry and when it is to be used

pieces of paper may be put in which will keep the insect clean from the bottle and the bottle clean from the insect.

The raising of moths and butterflies from eggs and worms is a very pleasant and instructive pastime. The worms are kept



HUMMING-BIRD MOTH



TORTOISE-SHELL BUTTERFLY

in cages and must be constantly supplied with fresh food, and in time they will prepare for their long sleep by forming a chrysalis.

One of our prettiest summer visitors in the insect world is the little humming-bird moth which flits from blossom to blossom and bush to bush sucking the nectar through its long tongue very much like its namesake.

The number of varieties of insects is almost infinite and gives a wide field for the collector. New species are continually being found and the entomologist's interest is always kept up. What is there more attractive and wonderful than the change of an ugly, repulsive worm into a gorgeous, delicate butterfly?

CHARLES W. VICKERY '97.



THE YELLOW BILLED CUCKOO

Unlike the European Cuckoo, the Yellow Billed Cuckoo of our own country is not accustomed to lay its eggs in the nests of other birds, though it is generally supposed to do so. The fact that this bird builds a very rude nest may indicate that at some early period it may have followed the parasitic habits of its European cousins, and that it has not yet attained such proficiency in nest building as birds that from the earliest periods of their history have built their own homes.

The Yellow Billed Cuckoo is found all over the United States, but is more abundant on the Atlantic and Pacific slopes. It is a migratory bird, arriving in our part of the country some time in May and departing the latter part of August. It is a rather retiring bird, and at times seems even stupid. It is a well



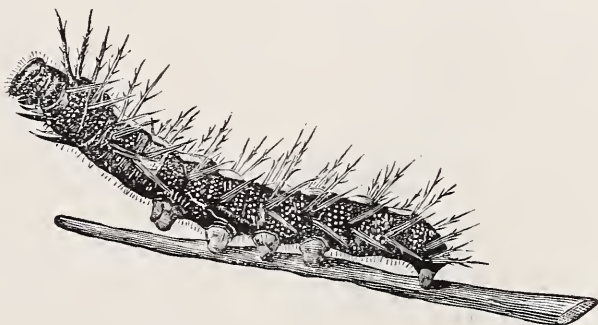
THE YELLOW-BILLED CUCKOO

known visitor in our streets and parks in spite of its modest disposition, but it prefers the quiet of the woodland, where it loves to sit in the shade and utter the mournful cry which has given it its name.

This bird is very valuable because of its voracious appetite for insects. It is one of the few species of birds that feed upon the hairy caterpillar. As an illustration of the work done by these birds, I will cite a single instance in which the stomach of a Yellow Billed Cuckoo on examination was found to contain thirty oak caterpillars, each three quarters of an inch in length.

There is nothing known of this queer bird to detract from its value except an accusation, by some ornithologists, of robbing the nests of other birds. This is not supported by those who are best acquainted with the bird, and should not in any way condemn so useful a bird without positive proof.

D. B. BARTLETT '97.



NEW HAMPSHIRE COLLEGE NEWS

A great improvement has been made in the sidewalk between Nesmith hall and the depot.

The sophomores began on their field surveying the 15th of April.

Britton '95 has been confined to his room by illness, but is now out again.

The young women have given several socials in connection with the missionary society. One was a button hole and whittling party, and another one of those pleasant gatherings where a literary programme was the order for the evening.

The feature of the opening meeting of the Culver Literary Society, on April 19, was a mock trial. Frank B. Clark was the prisoner, charged with "tampering with the ballot box at the election of officers of the Culver Literary Society." The proceedings were conducted as gravely as circumstances would permit. Judge Kittredge did credit to his office, and Deputy-Sheriff Colburn called the court to order and presented the prisoner. The empanelled jury consisted of four young women and five gentlemen of the College. The clerk, Professor Parsons, read the charge, and the case was opened by the plea of Lawyer Hancock; and the witnesses were then called. The information received from the witnesses required a good deal of sifting, Lawyer Adams cross-questioning for the defendant. After all the witnesses had been examined the argument for the defence was summed up by Lawyer Richard Fitzgerald, and the case was closed by Lawyer David Bartlett with his argument for the society. The case was then given to the jury by Judge Kittredge, and the sheriff conducted them to an ante-room. They soon returned with a verdict of "guilty," and the prisoner was sentenced to sing in the College choir for one week. A large number of visitors from the town were present, and all enjoyed the evening.

H. M. Chamberlain '98 has left college for a short time. We hope he may return soon.

The New Hampshire College Club gave their second entertainment, April 26, in College hall. It consisted of a hop gotten up by the social committee.

Cards are at hand announcing the marriage of W. E. Britton '93 to Miss Bertha M. Perkins, at Surry, N. H., April 30. The happy couple will be at home after July 1, at 805 Orange street, New Haven, Conn. We extend our cordial congratulations.

The installation of Rev. Oliver D. Sewall as pastor of the Congregational church at Durham, took place on Tuesday, April 30. The council for the examination convened in the morning, and in the afternoon the exercises of installation continued. The moderator gave his statement, which was followed by the report of the scribe; the invocation was then offered by Rev. Mr. Smith, and Rev. J. H. Fitts of Newfields read selections from the Scriptures. The sermon was delivered by Rev. Reuben Thomas of Brookline, Mass. Rev. D. B. Sewall of South Berwick, Me., offered the installation prayer; and Rev. Joseph M. Adams of Rochester extended the right hand of fellowship, and made a few very interesting remarks. President C. S. Murkland gave the charge to the pastor-elect, and President William D. W. Hyde of Bowdoin College briefly explained to the people what they should expect of the pastor, and how they should receive him. The closing prayer was offered by Rev. William W. Ranney of Phillips, Me., followed by the benediction by the pastor. We are heartily glad to welcome Mr. Sewall in our midst, and bespeak for him the cordial sympathy of the student body.

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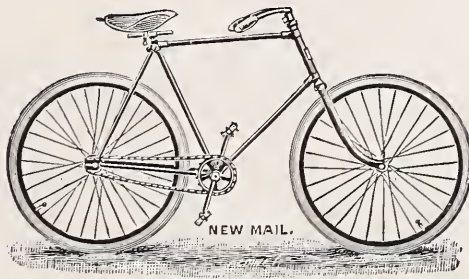
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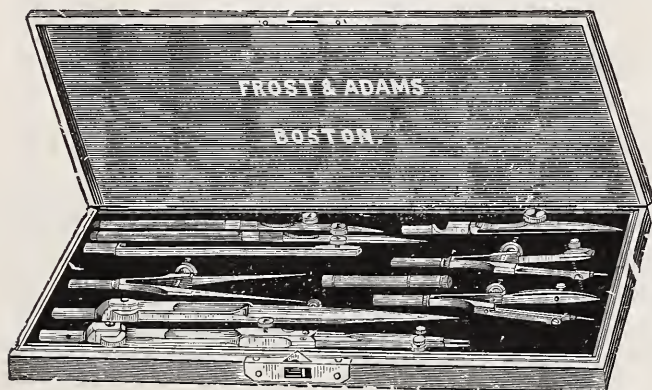
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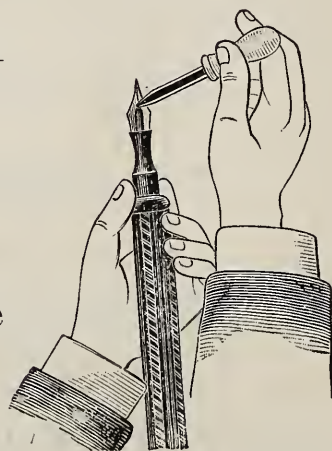
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5:57 a. m.

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8:51

2:58 p. m.

10:41

5:51

5:26 p. m.

7:23

SUNDAYS.

6:44 a. m.

2:56 p. m.

8:25 p. m.

6:13



